

FLIGHT

The
AIRCRAFT
ENGINEER
&
AIRSHIPS

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Founder and Editor : STANLEY SPOONER

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"FLIGHT" PHOTOGRAPHS.

To those desirous of obtaining copies of "Flight" Photographs, these can be supplied, enlarged or otherwise, upon application to Photo. Department, 36, Great Queen Street, W.C.2

For Sizes and Prices, see Advert. on page i.

DIARY OF CURRENT AND FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list:—

1928

- Mar. 1 "Experiences with the Baghdad Air Mail,"
Wing-Com. R. M. Hill, before R.Ae.S. &
Inst.Ae.E.
- Mar. 3 Rugby, Navy v. Army, at Twickenham
- Mar. 3 Aero Golfing Soc.—Team Match v. Moor Park
G.C.
- Mar. 15 "Testing of Materials Used in Aircraft Con-
struction," Dr. Rudolf, before R.Ae.S. &
Inst. Ae.E.
- Mar. 15 Aero Golfing Soc.—Winter Meeting, Sir Samuel
Instone Challenge Cup
- Mar. 24 Rugby, R.A.F. v. Army, at Twickenham
- Mar. 28-
Apl. 4 Exhibition of Light Aeroplanes, Folkestone
Drill Hall.
- Apl. 7 Cinque Ports Flying Club Demonstration,
Lympne
- Apl. 8-9 Aerial Display, Suffolk Aeroplane Club

INDEX FOR VOL. XIX.

The Index for Vol. xix of "Flight" (January to December, 1927) is now ready, and can be obtained from the Publishers, 36, Great Queen Street, Kingsway, W.C.2. Price 1s. per copy (1s. 1d. post free).

EDITORIAL COMMENT



SECOND ENGLISHMAN FLIES.

—Mr. J. T. C. Moore-Brabazon, who is so well known in connection with ballooning, and who is a member of the Committee of the Aero Club of Great Britain and Ireland, is the second Englishman to fly with his own machine, sharing with Mr. Henry Farman that distinction. On December 3rd, at Issy, he made three consecutive flights of 500 to 600 metres each, our photograph above being secured during one of these. The motor he employed is an ordinary 50-h.p. Vivinus; the aeroplane, upon the lines of the Voisin-Farman biplane, was also constructed by MM. Voisin Frères.

This inscription appeared under the frontispiece photograph, which was published on p. 1 of FLIGHT No. 1, Vol. I, of January 2, 1909.

In No. 1001, this week's issue, we record that another Englishman flies his own machine more than 11,000 miles in 16 days. His name is "Bert" Hinkler, his machine the Avro "Avian," and the motor he employed is an ordinary 80 h.p. "Cirrus." The 999 numbers of FLIGHT published between No. 1 and No. 1001 have recorded most of the steps which have made such progress possible, and it is with, we think, justifiable pride that we look back upon the times when Mr. (now Col.) Moore-Brabazon went careering around Issy on his old Voisin "box kite" with the peculiar "side curtains." Justifiable because in those days there were many who could not see flying ever amounting to anything. Not only so, but by many, even among our close friends, we were regarded as being just a little bit mad to start an aviation journal. Surely such a publication, although it might interest a few enthusiasts, could

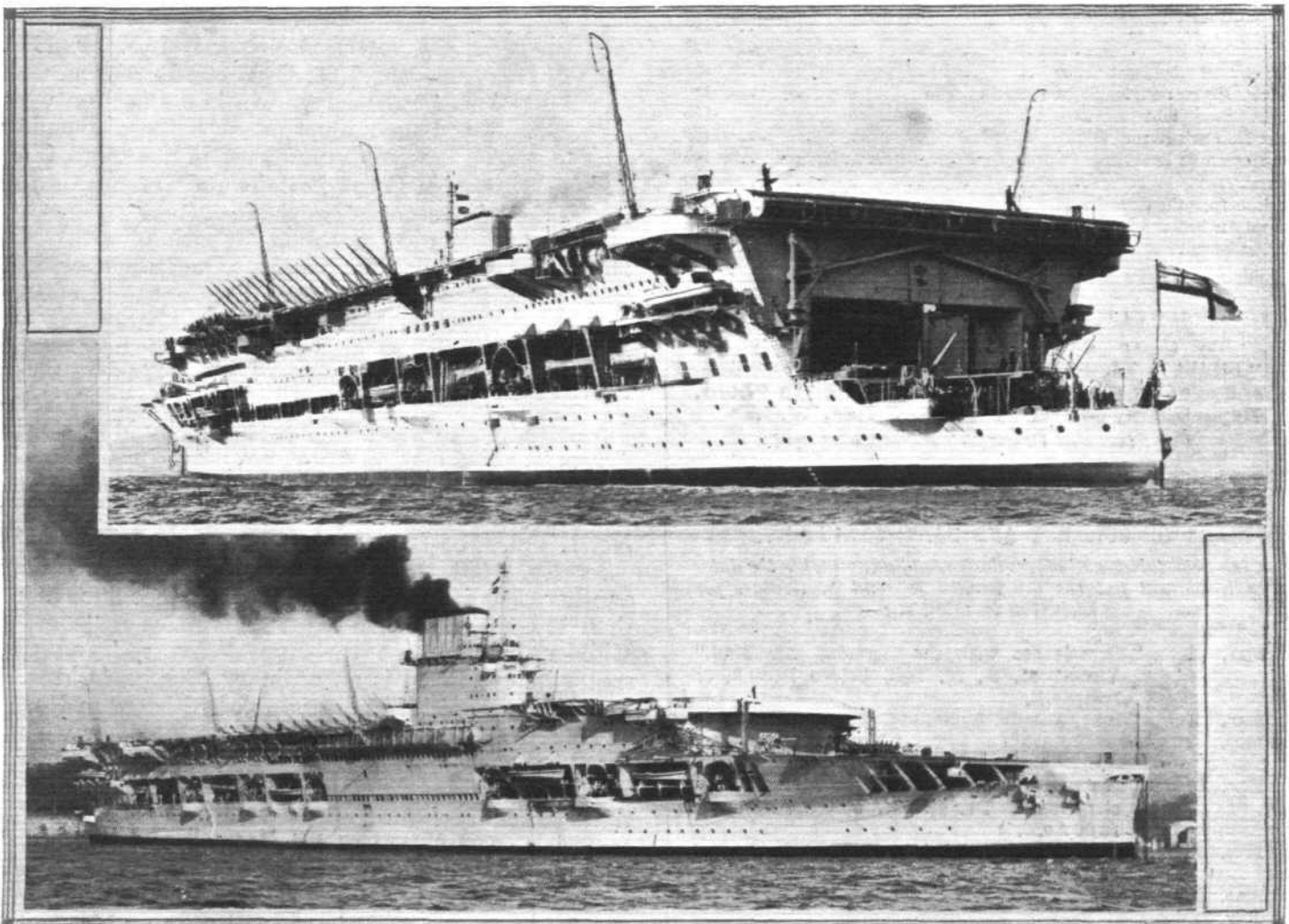
never hope to "pay its way." Well, for a few years it did not. But we are still alive and kicking; we did not start with a mint of money; and we have had no Government subsidies or Guggenheim grants to help us along. So, one way or another, we must have managed to pay our way. At least, in spite of our missionary work, we are not in the workhouse yet! That not a few of the 1,001 numbers of **FLIGHT** left us with a sadly depleted exchequer is now a matter for quiet amusement, but at the time it was often a little difficult to see the humour. However, we never lost heart. We felt sure that one day flying *would* "amount to something," and said so; and now we have survived to see an Englishman fly to Australia in 16 days on a machine with not a great deal more power than that on which Mr. Moore-Brabazon made meritorious flights of 500 to 600 metres. To see civilian aeroplanes for private use turned out at the rate of one per day. To see the air rapidly becoming our first line of defence. To see a flight of flying-boats make a cruise from England to Singapore, with no more trouble and difficulty than that entailed on a short cruise in sheltered waters on a surface vessel. To learn of preparations for making an attempt to establish a new world's speed record at more than 300 miles per hour! Truly flying is beginning to "amount to something."

In No. 1 of **FLIGHT** we recorded a series of attempts of Wilbur Wright to win the Michelin Cup. After

noting that he started by the aid of his derrick, and made 45 complete circuits of the triangle in 1 hour 53 minutes 59½ seconds, covering 99 kilometres, on December 18, 1908, we proceeded to relate how another attempt was made on December 26 in which, "as a grand finale he made five circuits of the trial ground at a speed of from 50 to 60 kilometres per hour, with the engine going all out, and, finally, he descended just in front of his shed." It would take a rather exceptional modern machine to fly at 31 to 37 miles per hour, but the trouble would be to keep down to that speed, not to keep up to it.

As for the choice of a title for our journal, it would doubtless amuse our readers to be told the inner history of that. Arguments at times grew fierce, and the titles that were suggested would seem very absurd in modern times. But the Founder and Editor persisted for the title **FLIGHT**—not **THE FLIGHT**—and **FLIGHT** the journal became. On the whole, the title was undoubtedly well chosen, although we have at times been rung up on the telephone by irate R.A.F. officers wanting to know why the so and so their uniforms had not yet been delivered! (It appears that there is a famous tailor with a similar name!)

FLIGHT has now become known, and, we have cause to believe, appreciated, in all parts of the world. That we are on the eve of just as far-reaching developments now as we were when No. 1 was published we firmly believe. By the time No. 2001 is published our readers shall surely know whether we were right.



USEFUL BUT NOT ORNAMENTAL: Two views of H.M.S. "Courageous" at Devonport, ready for steam trials. It is reported that the new aircraft carrier will have hangar accommodation for six flights of machines.

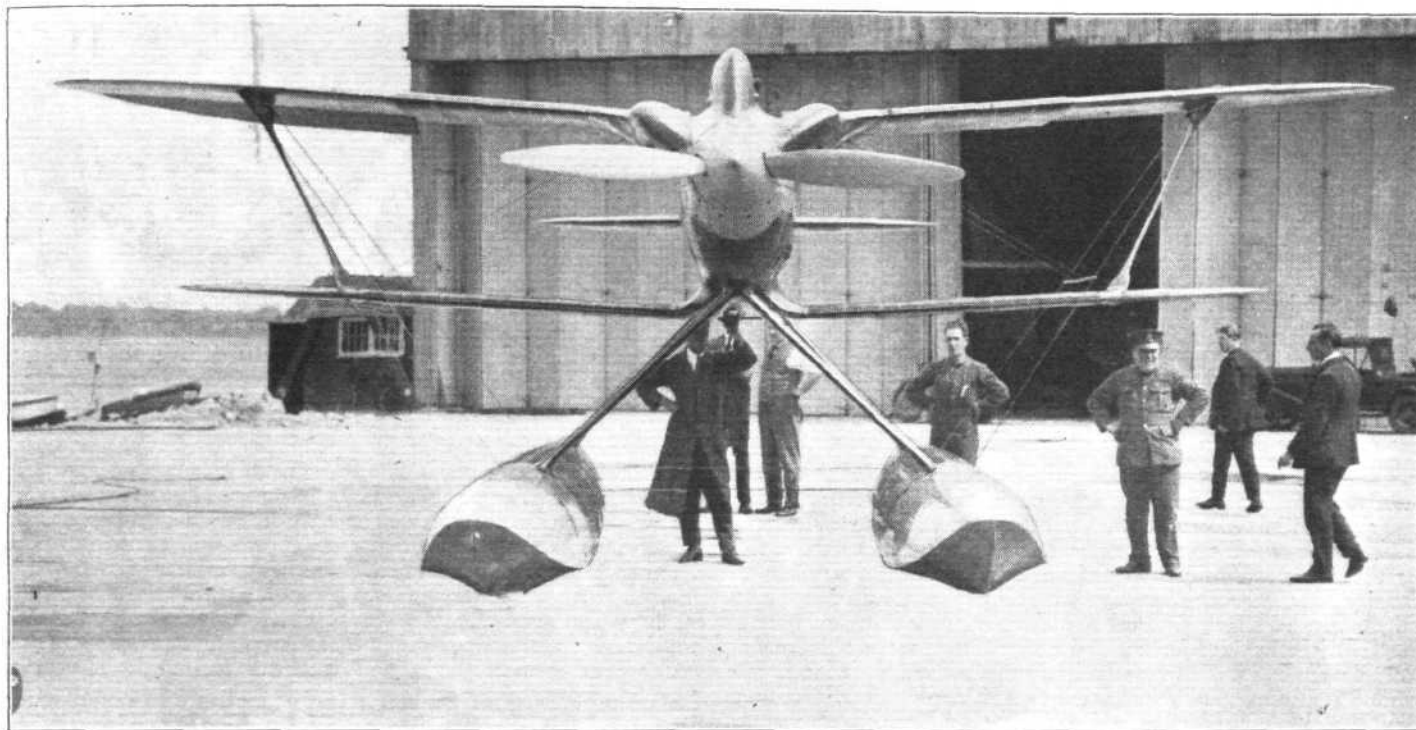
THE "GLOSTER IV"

Napier "Lion" Racing Engine

EVER since the earliest days of flying, the question, monoplane or biplane, has been a controversial one, and it is rather interesting to find that the problem remains unsettled right up to the present time, not only as regard service and commercial types of aircraft. In this country by far the largest percentage of aircraft are biplanes, and this applies both to

machines, although in American service aviation one finds practically no monoplanes.

When it comes to racing, again there is no marked preponderance of one type over the other. If we take the Schneider Trophy race for example, there have been monoplanes and biplanes in approximately even numbers, and

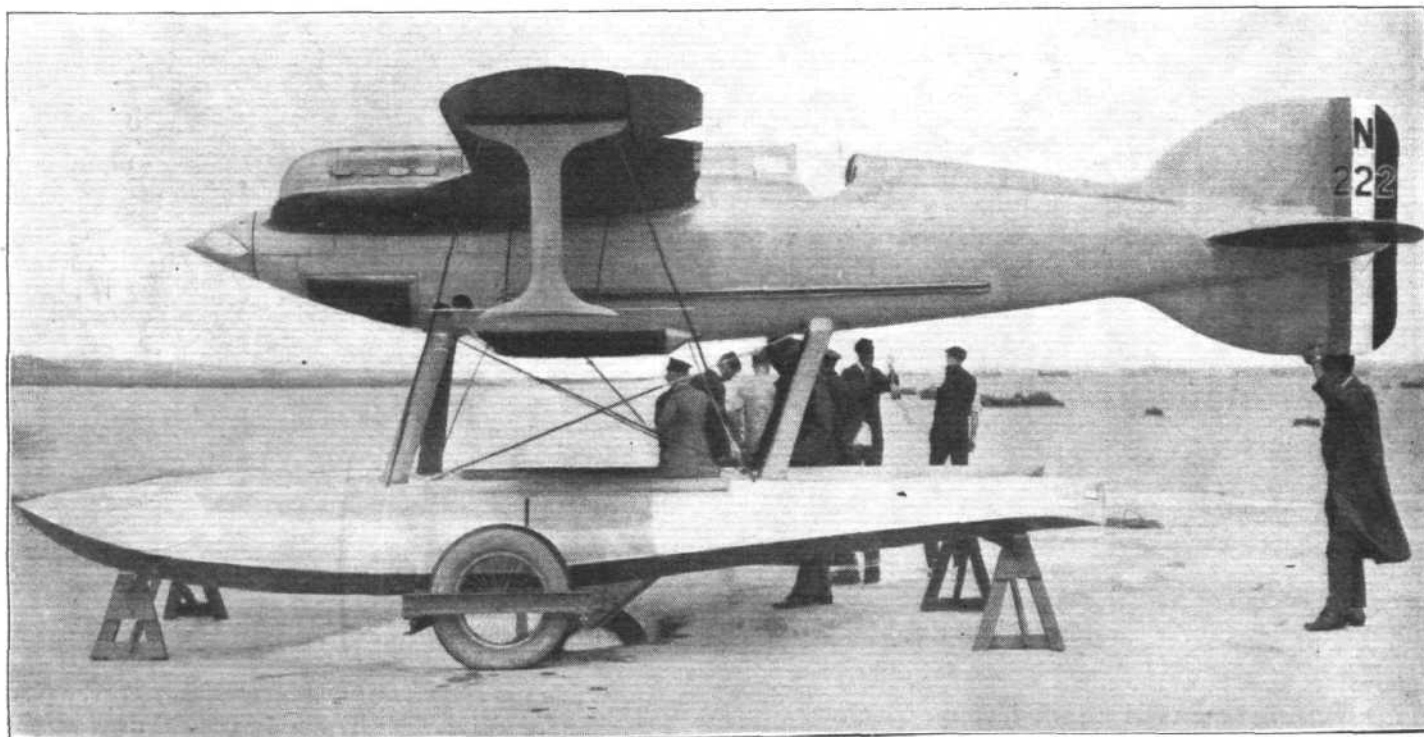


[“FLIGHT” Photograph]

THE “GLOSTER IV B”: Front view. Note the excellent angles made by the bracing wires.

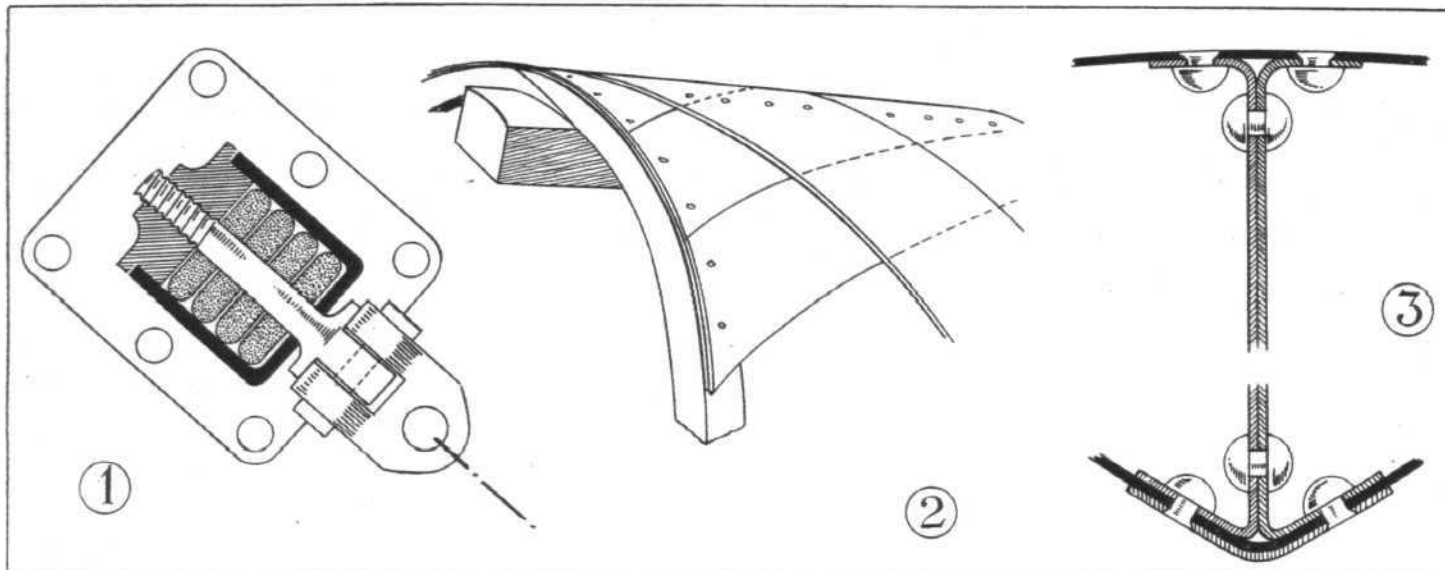
civil machines and service types. In Germany, on the other hand, the preference is for the monoplane, as witness the Junkers, Dornier and Rohrbach machines. In France one finds both types represented, although probably with the biplane, or rather the sesquiplane, in the majority. In the United States there has been, of recent years, a tendency to choose the monoplane for intermediate size commercial

although the world's speed record stands to the credit of a monoplane, and the Schneider Trophy race was won last year by a monoplane, he would be a bold man who would assert definitely that the monoplane is necessarily the fastest type. In commercial and service aviation it is usually considerations other than those connected with performance which determine the choice of type. In a racing machine



[“FLIGHT” Photograph]

THE “GLOSTER IV B”: Side view.



["FLIGHT" Copyright Sketches]

THE "GLOSTER IV B" : 1, shows how anti-lift wires are prevented by rubber buffers from going slack when relieved of load. 2, the "double-diagonal" method of planking the fuselage. 3, showing how rivets are finished off flush with skin of float to reduce air friction.

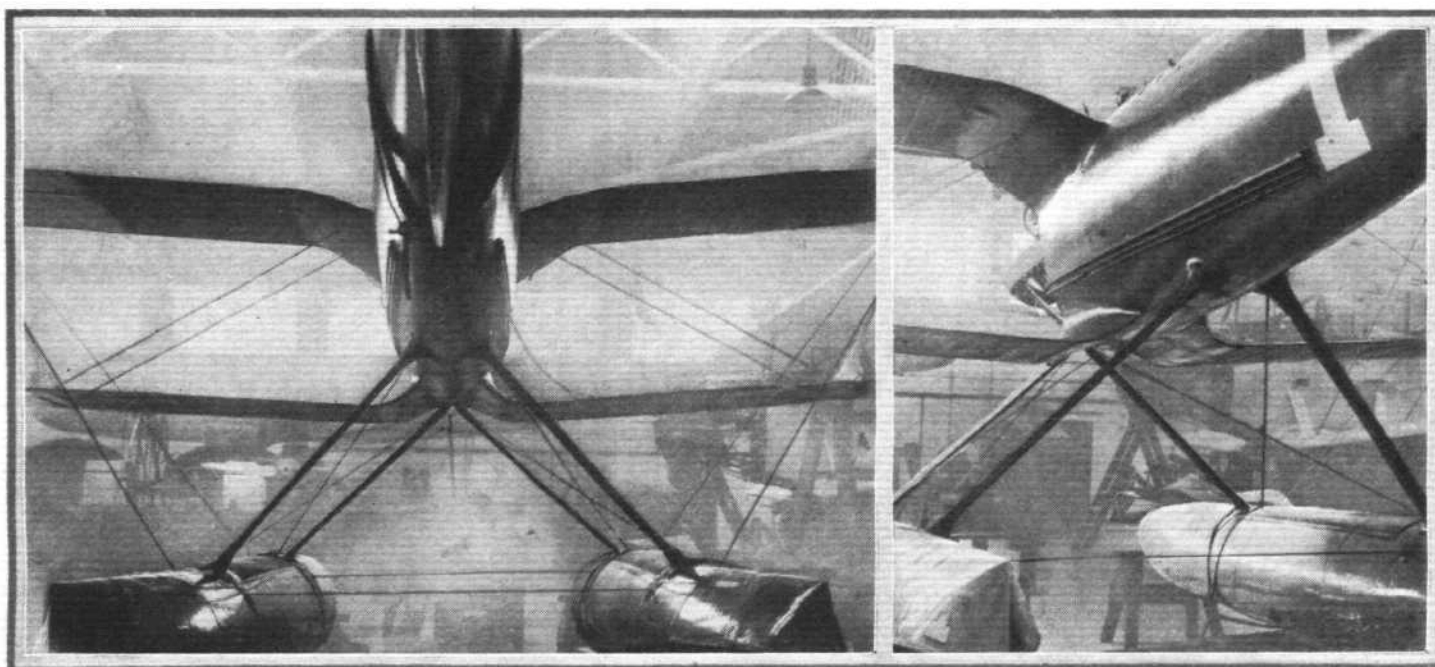
the conditions are somewhat different, and low drag is the chief feature aimed at, although there are necessarily many other considerations which have to be taken into account.

In the case of the "Gloster IV" B, designed and built by the Gloster Aircraft Co., Ltd., for last year's Schneider Trophy race, it is of interest to study the considerations which led to the adoption of the biplane type of machine, and a short article by Mr. H. P. Folland, the firm's chief engineer and designer, which appeared in the "Gloster Magazine" Christmas number, outlines briefly his reasons for making the "Gloster IV" a biplane. Before proceeding to a study of these, it may be as well to point out that up to the present moment there is probably no one who can claim to know quite definitely which is the faster machine, the Supermarine S.5 monoplane, or the Gloster IV biplane. The lap speeds of the race appear to indicate that the Gloster was faster than the direct-drive Supermarine, but slower than the geared S.5. That, however, is not necessarily definite proof, and the probability is that in point of speed there is little to choose between the biplane and the monoplane.

And now for the considerations which led Mr. Folland to

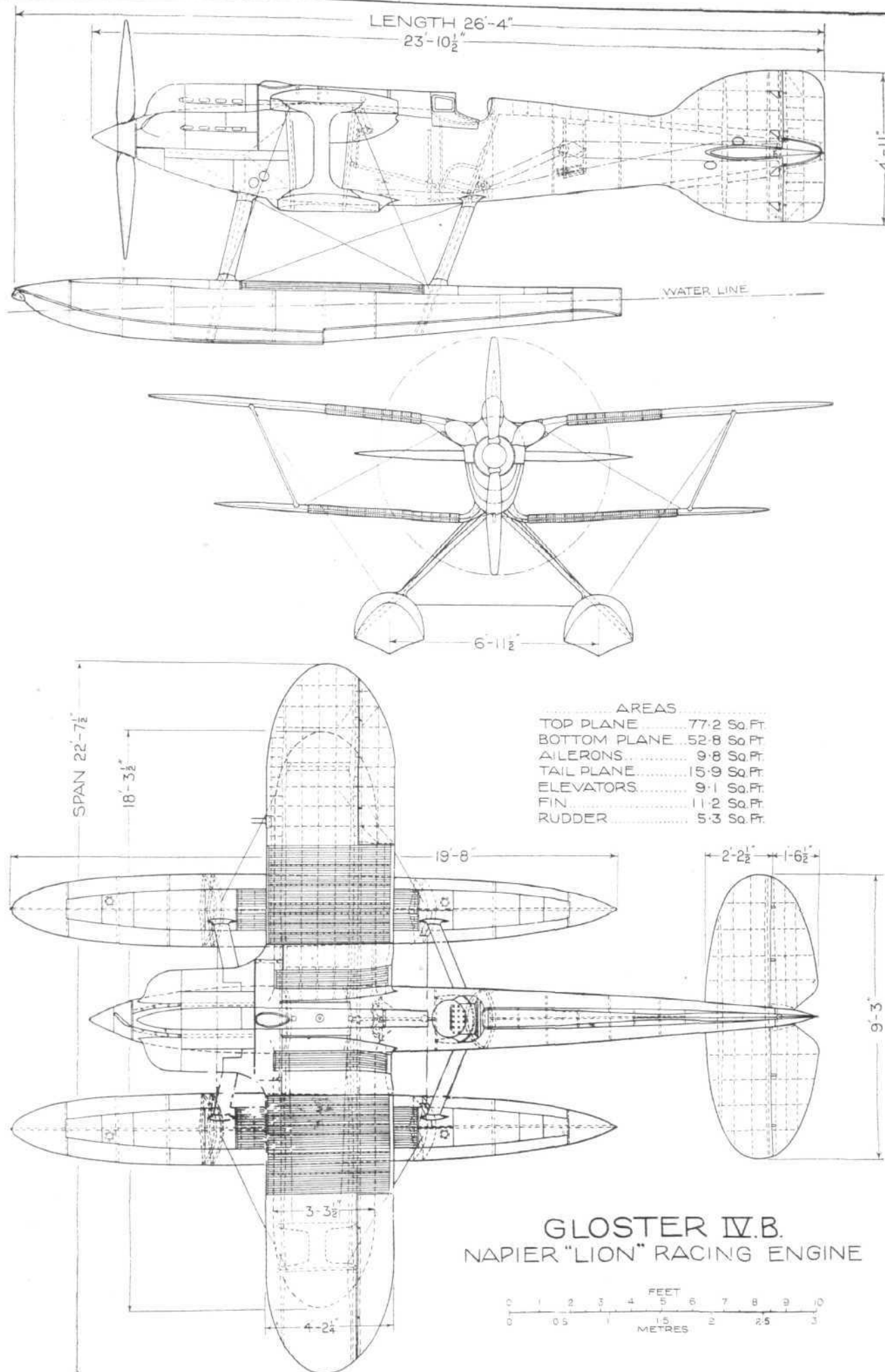
choose the biplane. "Can a biplane be as fast as a monoplane, given equal horsepower and same design specification regarding performance?" This is the question Mr. Folland asks in the article referred to. He then proceeds to outline the manner in which he and his assistants examined the problem. Comparison was made on three chief points: Speed, wing rigidity, and application to service requirements.

Of these the first was the most important, and Mr. Folland states that what decided him was the fact that, with the "broad arrow" type of engine it was possible to fair the top wing into the cylinder blocks, to get all wires leaving the surfaces at large angles and thus reduce interference, to use a small-chord, thin-section bottom wing, the roots of which could, by curving them, be fitted into the fuselage with a minimum of interference, and finally by having surface radiators on both wings, to get a larger percentage of the radiators into the slipstream from the airscrew. From the structural point of view doubtless Mr. Folland was also influenced in his choice by the fact that torsional rigidity, or in other words guarding against wing flutter, is, perhaps, rather more easily achieved with a biplane structure than with

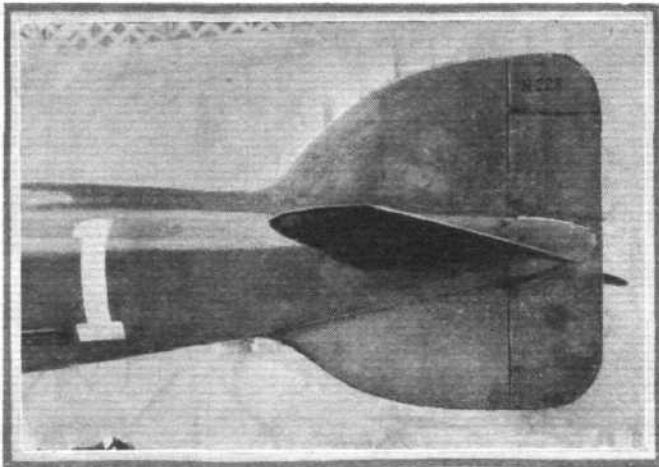


["FLIGHT" Photographs]

THE "GLOSTER IV B" : Reducing interference was one of the great problems in the design. These photographs indicate how interference between wing roots and fuselage was reduced by avoiding sharp angles. The top plane fairs into the outer cylinder blocks, and the lower wing roots curve down and outwards, being initially at right angles to the surface of the body.



THE "GLOSTER IV B," Napier "Lion" Racing Engine. General Arrangement Drawings, to Scale.



THE "GLOSTER IV B": View of the nearly symmetrical tail surfaces.

a monoplane. Finally, although we doubt that it weighed very heavily in coming to a decision, the Gloster company has had years of experience in building fast biplanes.

In the number, of the "Gloster Mag." already mentioned, there is also an article by Mr. H. E. Preston, assistant chief engineer and designer, in which certain interesting information relating to the development of the "Gloster IV" of 1927 from the "Gloster III" of 1925 is dealt with. In this article Mr. Preston points out that, on the two items offering the greatest head resistance, the fuselage and the floats, by reducing the area and revising the lines, in other words the form, a saving of 45 per cent. of the 1925 machine was effected. Careful and smooth blending of the wings into the fuselage not only resulted in a reduction of the drag, but also gave an increase in lift of 15 per cent. The total reduction in resistance of the whole machine as compared with the "Gloster III" amounted to about 40 per cent. on the latter. By way of comparing the relative efficiencies of the two Gloster racing machines, Mr. Preston takes as his criterion the ratio of maximum lift to minimum drag, and how great was the improvement on this basis will be realised when it is stated that the ratio for the "Gloster III" was 26.2, while in the "Gloster IV" this ratio has been increased to 42.3.

Mr. Preston, in his article, tabulates the increase in speed attained with the "Gloster IV" as compared with the "Gloster III" as follows:—

	Resulting Increase in Speed (m.p.h.)
Reduced head resistance of machine	37
Increased engine power	20
Increased airscrew efficiency	9
Increased landing speed	4
Total increase	70 m.p.h.

This table brings out fairly clearly the relative importance of the various main items.

Constructional Features

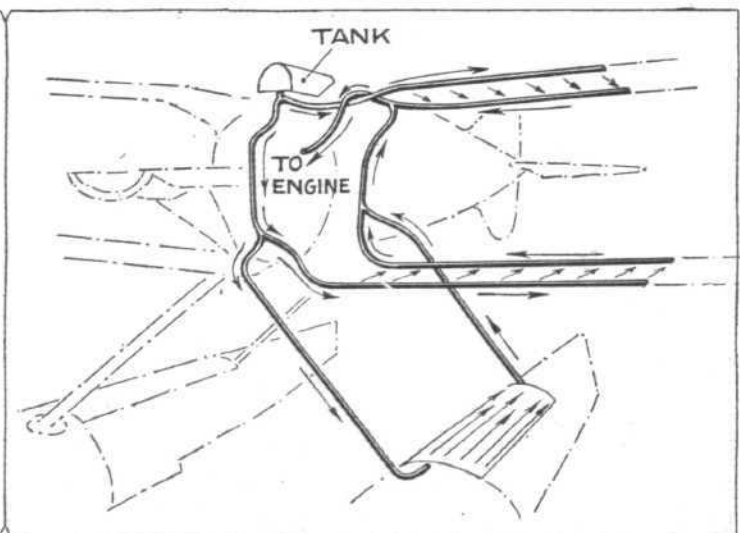
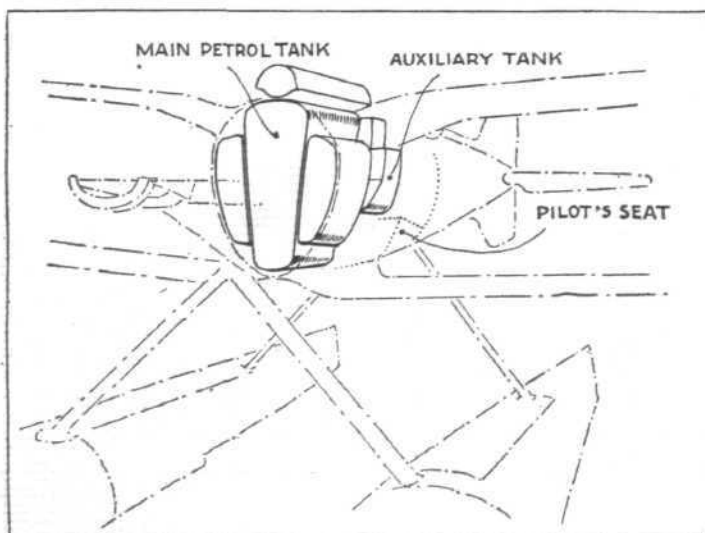
Having now outlined briefly the main considerations in aerodynamic design, we may turn to the constructional features of the "Gloster IV". The fuselage section used practically precluded the more usual forms of construction, and ultimately a form was chosen which was regarded as giving the best solution of the somewhat conflicting requirements of good aerodynamic shape and reasonable ease of construction. This took the form of what is known in boat-building practice as the "double-diagonal" system, in which fairly narrow planks are laid on at an angle of about 45 deg. to the centre line and the planks of the two skins crossing each other at approximately right angles. In the "Gloster IV" these planks are of spruce, about 3 in. wide and $\frac{1}{8}$ in. thick. Generally speaking there are two skins, but in places where the loads are more intense, the number of laminations is increased. The fins are built integral with the fuselage, and like it are covered with laminated spruce. The wooden tail plane is adjustable on the ground, and can be set to any desired incidence, although it is to all intents and purposes integral with the fuselage.

In designing the engine mounting of the "Gloster IV" rigidity was aimed at as a first consideration, but the question of accessibility was not overlooked, and in the end a type of mounting was evolved which proved very satisfactory from both points of view. This is shown by some of our sketches. Two box section Duralumin engine bearers are supported on a system of steel tubes. Welding is entirely avoided, and all main joints are fitted with stainless steel taper bolts of ample dimensions to secure a good fit.

Under the engine bearers is mounted the oil tank, which incorporates the oil cooler, the tank being made to the contour of the fuselage, and the cooler taking the form of corrugations through which the oil passes after leaving the engine. Auxiliary coolers are mounted on the sides of the fuselage.

The petrol system is somewhat complicated by the fact that the tanks are all contained inside the fuselage. Thus, it might be said that in all there are seven petrol tanks, although it would, perhaps, be more correct to say that there is one main tank divided into three, one auxiliary tank also divided into three, and a service tank placed in the top deck fairing of the central cylinder bank. The general scheme of the tank installation is shown in a diagram. Webs are provided for lifting the tanks out of the machine, and the division into three has been made necessary in order to get the tanks in and out through relatively small openings in the body.

The wing construction of the "Gloster IV" is unusual in that the skin or covering is made part of the stress-bearing structure. Built up of laminations similar to those employed in the fuselage, the thin and almost symmetrical aerofoil sections used were formed by building up the skin on formers of the required contour and secured to the skeleton, which consisted of multi-spars, leading and trailing edges, and intermediate contour pieces in place of the usual ribs. On load tests the wings were found to support a load equivalent to



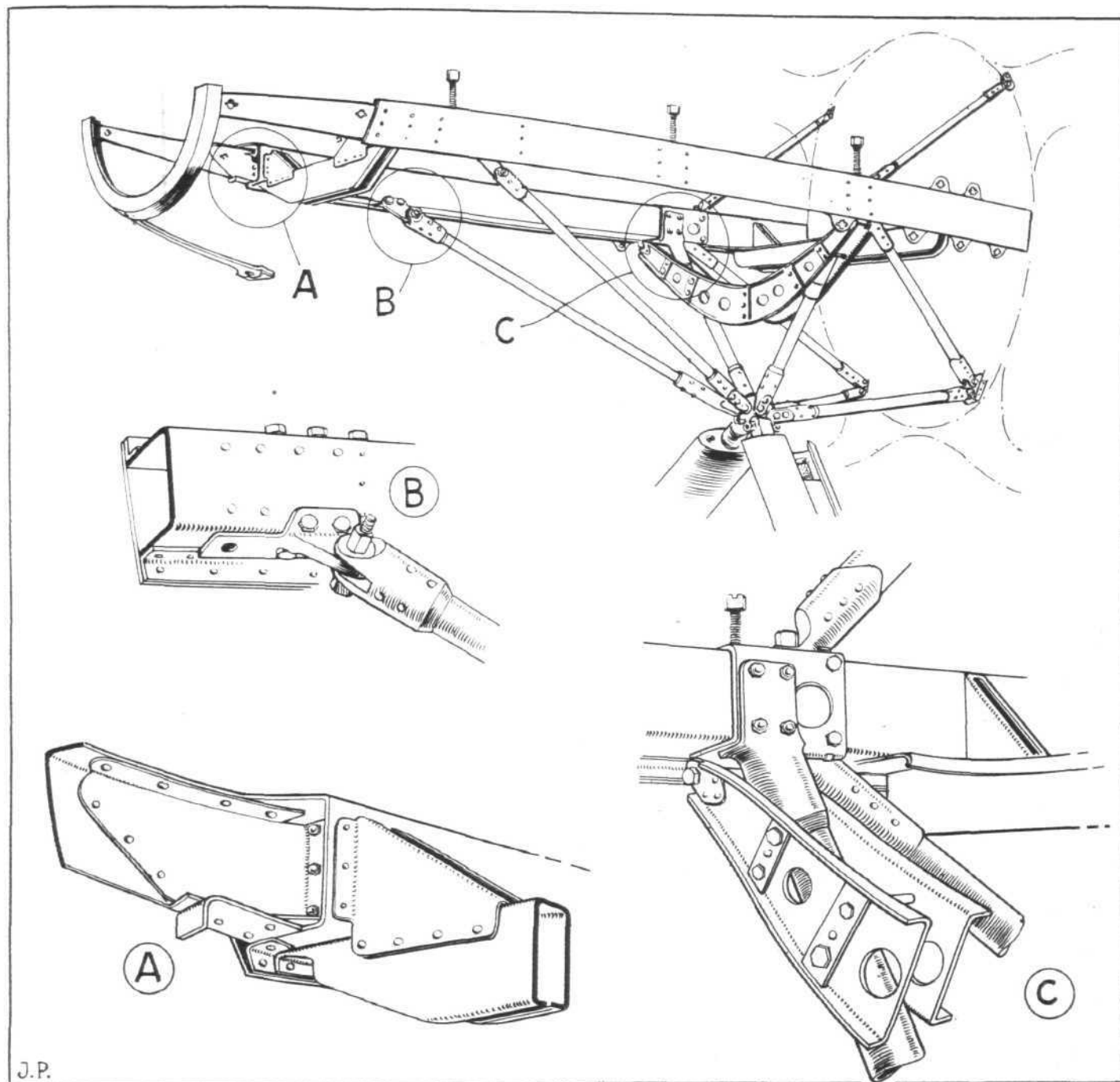
THE "GLOSTER IV B": On the left, the arrangement of the seven petrol tanks in the fuselage. There are three main tanks, three auxiliary tanks, and one service tank. On the right, a diagrammatic perspective representation of the water system, one-half only being shown. Note the radiator on the port float.

13 times the weight of the machine before signs of failure were observed. Thus, there was a good margin of safety in hand to take care of the increased acceleration possible in such a high-speed machine.

Reference has already been made to the wing bracing from the aerodynamic point of view. The excellent angle of the

of brass at leading and trailing edges. Additional surface radiators are mounted on the decks of the floats, and as these are practically water-cooled during prolonged taxiing on the surface, they are very effective at a time when the engine is most likely to overheat.

The floats are of Duralumin, of the single-step, curved deck



"FLIGHT" Copyright Sketches

THE "GLOSTER IV B": Some constructional details. Above, a general view of the engine mounting; and below, some of its details.

lift wires has the further structural advantage that they impose but a very small compression load in the top wing spars. The angle of the landing wires, or as they are more usually called nowadays, "anti-lift" wires, is not quite so good, but is still better than usually found. To prevent the landing wires from going slack and vibrating when relieved of some of their load, a neat shock-absorbing or compensating arrangement has been employed. The internally-placed ends of the "anti-lift" wires have large nuts which, when the wire is taut, bear on the edges of a cup, inside which are a number of rubber discs. When some of the load on the wire is reduced, these rubber discs expand and in so doing keep the wire reasonably taut. The arrangement is illustrated by a sketch.

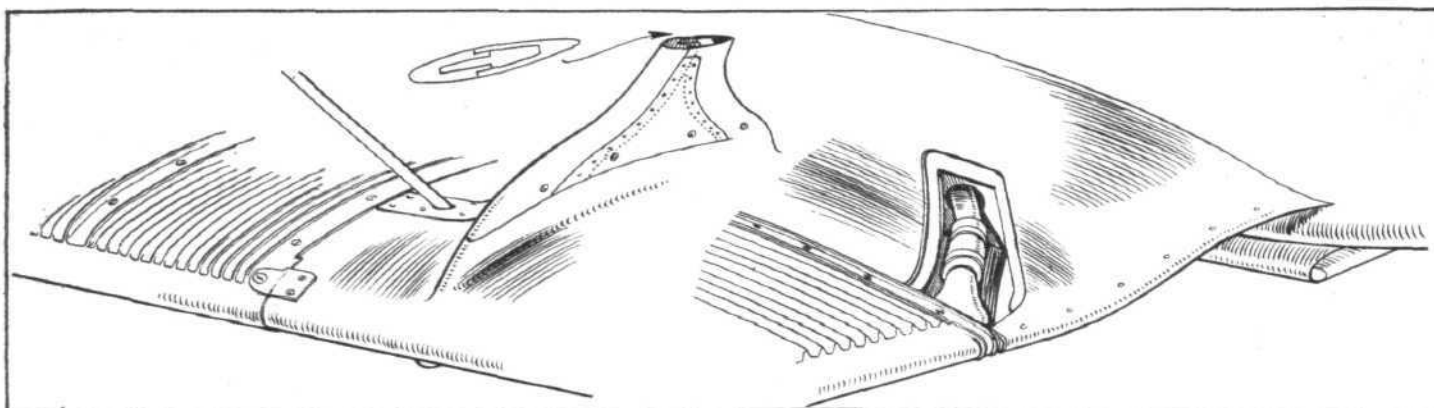
Mounted on the wings are the surface type radiators specially developed by the Gloster Company. These radiators are made of thin corrugated copper sheet with waterways

type, and from the side elevation and the side view photograph it will be seen that they are slender and tapered to reduce air drag. They are supported on two pairs of struts, both pairs meeting on the centre line of the fuselage, and depending on the wire bracing for their stability. Horizontal wires connect the two floats, in place of the struts usually employed some years ago.

In order to reduce to an absolute minimum the frontal area of the inter-plane struts, these are made of Duralumin forgings, lightened out inside, and the frontal area of these struts (which are less than 1 in. thick) is only one-half of the frontal area of the equivalent struts built in wood.

Controls

The controls are all internal. The ailerons are actuated by torque tubes running inside the top plane, while the elevator and rudder controls are inside the fuselage. These



"FLIGHT" Copyright Sketches

THE "GLOSTER IV B" : The wing surface radiators. On the left, the outer end of the lower plane radiator, showing also the Duralumin interplane strut. On the right, the water piping entering the fuselage at trailing edge of lower plane.

controls are fitted with a special variable-gearing device, giving a ratio of approximately 3 to 2 for the initial movement of the control column, and a ratio of 2 to 3 for the final movement. This gives the pilot a control which is not only light and effective at high speeds, but also at low speeds and when alighting or taxiing.

The propeller was made by the Gloster Aircraft Co., and is a Duralumin forging milled on a special machine to the

correct contour and pitch. Thus, no twisting of the metal is required, and it is claimed that adequate stiffness and a minimum of blade distortion under load are attained.

Finally, the weight empty of the "Gloster IV" is 2,300 lb., while the useful load is 710 lb., including 11 gallons of water, 5½ gallons of oil, 55 gallons of petrol, and 15 lb. of instruments. As the wing area is 130 sq. ft., the wing loading is 23.2 lbs./sq. ft. The power loading = 3.44 lb./h.p.



At St. James's Palace, February 28

HIS MAJESTY THE KING held a Levée on February 28 at St. James's Palace, at which were present Air-Marshal Sir John Salmond, Principal Air Aide-de-Camp, Group Captain P. F. M. Fellowes, Aide-de-Camp in Waiting, and Air Vice-Marshal Sir Sefton Brancker. Amongst those presented to His Majesty were: General R. Verduzio (Italian Air Attaché), Major Sir Wm. Acland, Bt., M.C., A.F.C., Sqdn.-Leader N. Anderson, Flying Officer E. Andrewartha, Flying Officer B. Barrett, Sqdn.-Leader H. Crichton, M.B.E., Capt. R. Davies, V.C., D.S.O., A.F.C., R.N., Sqdn.-Leader H. Edwards, Flight-Lieut. J. Elliott, Wing Commander R. Field, Sqdn.-Leader F. Fowler, D.S.C., A.F.C., Sqdn.-Leader H. Fraser, Flight-Lieut. J. Glaisher, D.F.C., Flight-Lieut. A. Goldie, Flying Officer E. Groner, Flying Officer A. Harvey, Flight-Lieut. Reginald Hill, Flight-Lieut. W. Honey, Sqdn.-Leader G. Johnson, M.C., Flying Officer P. King, Flying Officer D. Mitchelmore, Flying Officer F. North, Flight-Lieut. S. Park, Flight-Lieut. W. Purdin, Flight-Lieut. P. Rippon, Flying Officer F. Swain, Flight-Lieut. A. Wann, Sqdn.-Leader A. Jones-Williams, M.C., etc.

German Air Transport Expands

GERMANY is contemplating extending its air lines to the Persian Gulf, which has been made possible by an agreement between Persia and Russia. Other projections are a Berlin line to the Pacific, a Siberian line between Germany and Russia, and a Berlin-Buenos Aires line, for which airships will be used.

"They Loved Darkness rather than Light, because their Deeds were Evil"

WHEN the four Southamptons now winging their steady way to Australia were moored in Karachi harbour they found the water very foul, and after a fortnight at moorings the boats had to be hauled up on to the sand in order that the hulls might be cleaned and re-painted. It will be remembered that all the boats are painted white; but, while the flagship is entirely white, the other boats have identification marks consisting respectively of one, two and three vertical black rings round the hull. When the boats were beached it was found that barnacles had congregated on these black rings. Why they preferred black paint to white may be due to the reason given above. At present no other explanation is forthcoming. Such questions must have a practical interest for all R.A.F. personnel who go down to the sea in seaplanes. At any rate, Group Capt. Cave-Browne-Cave settled the problem for the moment by having the black rings painted out below the water line. It remains to be seen whether the barnacles of the Far East and Australasia will eschew the

hulls of the Supermarines or, *faute de mieux*, will console themselves with a banquet of white paint.

New Director for British Airships

WE learn that Capt. A. Weir-MacColl, A.F.C., has joined British Airships, Ltd., as a Director and Chief Pilot. Capt. MacColl, it will be remembered, holds the world's record on a non-rigid airship, having piloted the N.S. 11, in 1918, over the North Sea for 101 hours, covering more than 4,000 miles. Incidentally, Capt. MacColl would be glad to get in touch with any of his old crew or any airship members who are interested in this development.

Metalised Materials

REFERENCE has already been made in FLIGHT to the new process for the metalisation of materials, the world rights for which were secured by British Airships, Ltd. We now learn that a private company is being formed with the object of establishing a working unit in this country, so that Mr. W. I. Einstein, who has developed the process in collaboration with the inventor, may be able to supply the trade with try-outs and tests with a view to formulating an idea of the commercial value of the invention and its production costs. The name of the new company is to be "Metalised, Ltd." and the Board will consist of Admiral Sir Henry Pelly, K.C.V.O., C.B. (Chairman of British Airships, Ltd.), Com. E. A. Norton and Mr. Lincoln Sutton (Managing Director of British Airships, Ltd.).

Messrs. Thomas Firth & Sons, Ltd., Extend

THE undertaking of Padley and Price, Ltd. (late of Sheffield), of Blackheath, near Birmingham, has been acquired by Thos. Firth and Sons, Ltd., the well-known steel manufacturers, whose name is so closely associated with the developments of "Firth Stainless" and other corrosion-resisting steels, and whose exhibits of "Firth Staybrite" steel form a prominent and interesting feature of the British Industries Fair. The undertaking will in future be carried on as Thos. Firth and Sons (Birmingham), Ltd. Messrs. Padley and Price's works have for the past three years been specially devoted to the manufacture of finished articles made from "Firth Staybrite," in the various forms which utilise its remarkable properties of great malleability combined with "super-stainless" qualities, but as the policy of Thos. Firth and Sons, Ltd., as steel-makers, is to encourage the use of these new materials by existing producers of the various articles, their primary intention is now to develop the Birmingham Works from the point of view of the supply of "Firth Staybrite" in the semi-manufactured condition, such as polished sheet and strip, welded and open-joint tubes, etc., and for demonstrating the facility of working the material, which is continually finding new and increased application for industrial and domestic purposes.

THE GREAT FLYING BOAT CRUISE

The Four Supermarine-Napier "Southamptons" Reach Singapore

WHILE Bert Hinkler has made glorious history in British aviation on the civilian side, the Service has not been idle, for it has, also, added yet another triumph by the arrival at Singapore of the four R.A.F. Supermarine-Napier flying boats, thus completing the main portion of the Great Flying-Boat Cruise to Australia. Though, perhaps, not so spectacular as the former achievement—a 16-day hustle to the other side of the globe in a small single-seater machine of only 60 h.p.—the steady progress of the four "Southamptons"—big, twin-engined metal flying boats, flying, without a single failure, to a fixed time table—over much the same route as that taken by Hinkler, is equally remarkable and praiseworthy. The flight has accomplished the longest formation flight by flying boats in the history of aeronautics, having, so far, completed—without a single serious mishap—over 10,000 miles.

The object of this cruise, we would remind our readers, was primarily to gain experience in the problems involved during an extended independent cruise carried out by flying boats, and also to obtain experience regarding the reinforcing of points on the Imperial routes with aircraft drawn from England or other parts of the Empire. No effort has been made to complete the cruise in record time, and, as previously stated, the squadron has flown stage by stage according to a pre-arranged time-table, collecting all possible information as it went along.

We may, perhaps, again give brief particulars of the composition of the Flight—men and machines. The latter consist of four Supermarine "Southampton"-type flying boats possessing several modifications and improvements—chief of which being the metal (Duralumin) hulls in place of wooden hulls. Each boat has two standard Napier 5A-type "Lion" engines.

The Flight is under the command of Group-Capt. H. M. Cave-Brown-Cave, D.S.C., D.F.C., whose boat—or "flagship"—is piloted by Flt.-Lieut. H. G. Sawyer, A.F.C. The second in command (in boat No. 1) is Sqdn.-Ldr. G. E. Livock, D.F.C., while the other officers are:—Boat No. 1, Flt.-Lieut. P. E. Maitland, A.F.C.; Boat No. 2, Flt.-Lieut. D. V. Carnegie, A.F.C., and F./O. G. E. Nicholletts; Boat No. 3, Flt.-Lieut. C. G. Wigglesworth, A.F.C., and F./O. S. D. Scott.

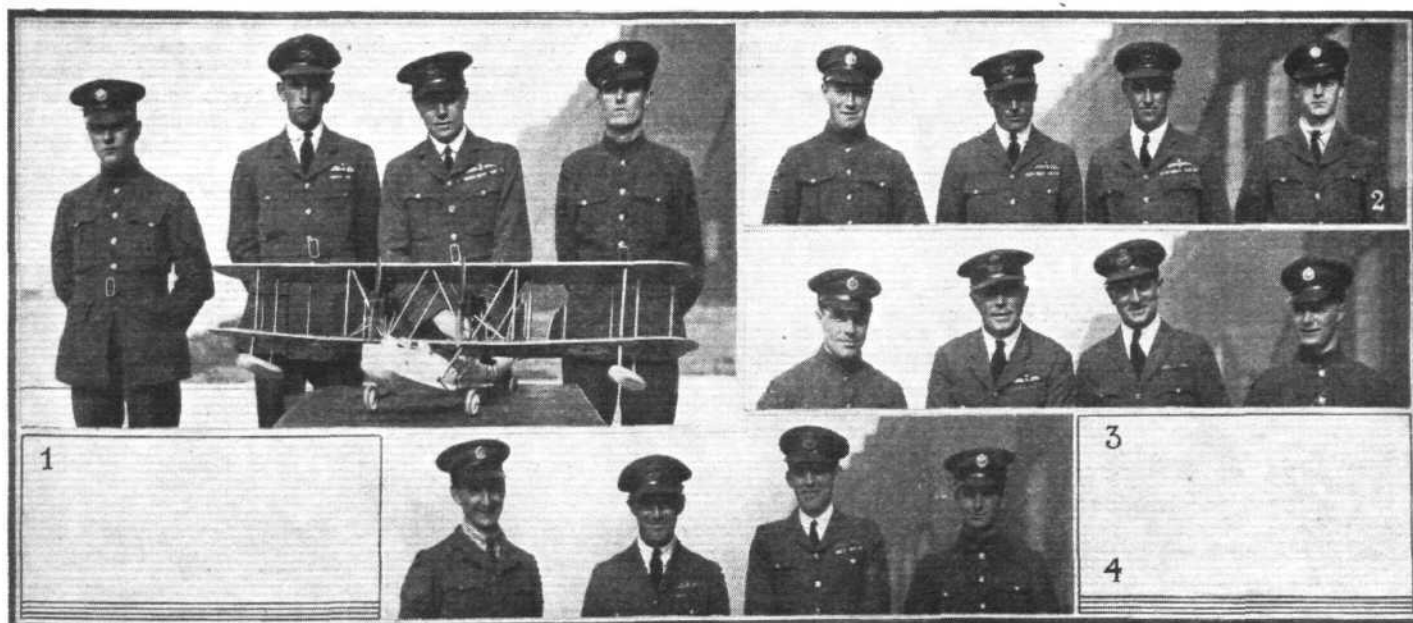
Since the Flight left Plymouth, on October 17, last, we have briefly recorded, in FLIGHT, the progress made week by week, and as we intend, very shortly, to publish in full the official "log" of the cruise as from England to Karachi, we only propose, this week, to set forth the bare facts regarding the final stages and arrival at Singapore. Subsequently, no doubt, details of the remaining section will be available from official sources.

As recorded in last week's issue, the four "Southamptons" arrived at Penang on February 16, and after staying here a week, proceeded on February 23, to Port Swettenham (Selangore). Then, on February 28, they completed the final leg of the big cruise to Singapore, their base, where an extremely enthusiastic welcome was accorded by the inhabitants. Sir Hugh Clifford, the Governor, was a passenger in one of the boats, and greatly enjoyed his trip from Port Swettenham. The Flight will remain at Singapore for some time.

Later on, in company with two "Southamptons" of the Royal Australian Air Force, the four flying boats will continue the cruise to Australia, via Batavia and Port Darwin. After a flight round Australia, during the summer, they will return to Singapore, whence further flights—to Hong Kong and other places—will be carried out.

The following is a time-table of the cruise, from Plymouth to Singapore, with the *approximate* distances in miles between each stage given in brackets.

Oct.	17 Plymouth—Hourtin (330).	Dec.	15 Karachi—Bombay (560).
19	Hourtin—Berre (270).	27	Bombay—Mangalore (450).
21	Berre—Naples (382).	29	Mangalore—Cochin (240).
25	Naples—Brindisi (200).	31	Cochin—Colombo (500).
28	Brindisi—Athens (295).	Jan.	12 Colombo—Trincomalee (340).
29	Athens—Aboukir (434).	19	Trincomalee—Lake Pulicat (370).
Nov.	3 Aboukir—Alexandretta (365).	20	Pulicat—Cocanada (280).
5	Alexandretta—Ramadi (363).	23	Cocanada—Chilka Lake (280).
6	Ramadi—Hinaidi (520).	27	Chilka—Calcutta (300).
10	Hinaidi—Basra (225).	Feb.	3 Calcutta—Akyab (450).
12	Basra—Bushire (165).	6	Akyab—Rangoon (500).
14	Bushire—Henjam (302).	13	Rangoon—Mergui (350).
16	Henjam—Gwadar (330).	16	Mergui—Penang (500).
18	Gwadar—Karachi (225).	23	Penang—Pt. Swettenham (250).
		28	Pt. Swettenham—Singapore (250).



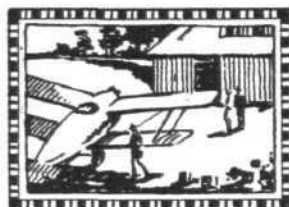
THE GREAT R.A.F. FLYING BOAT CRUISE: Our picture shows the officers and men of the four Supermarine-Napier "Southampton" metal flying boats which have now reached Singapore. (1) The "Flagship," Group Capt. H. M. Cave-Browne-Cave (right, centre) and Flight-Lieut. H. G. Sawyer. (2) Boat No. 1, Sq.-Ldr. G. E. Livock (left, centre) and Flight-Lieut. P. E. Maitland. (3) Boat No. 2, Flight-Lieut. D. V. Carnegie (left, centre), and F./O. G. E. Nicholletts. (4) Boat No. 3, Flight-Lieut. C. G. Wigglesworth (left, centre) and F./O. S. D. Scott. We believe that two of the airmen were, during the actual flight, replaced by their equivalent weight in extra spares and stores!

Britain's Air Speed Bid

It is stated now that the British attempt upon the world's air speed record will be made about the second week in March;

the actual day depending upon the weather. The pilot will be Flt.-Lieut. S. N. Kinkead, one of the last Schneider Trophy team, and he will fly the Supermarine-Napier S 5.

PRIVATE



FLYING

A Section of **FLIGHT** in the Interests of the Private Owner, Owner-Pilot, and Club Member

FLYING CLUBS OF SOUTH AFRICA

AFTER her flying visits to the light aeroplane clubs at Port Elizabeth and East London, Lady Heath continued her tour in the Avro "Avian" to Durban, flying there from Umtata over impassable country in 2½ hours. The aerodrome was hard to find. It is equipped with a good hangar capable of accommodating three machines.

The Durban Club

The Durban Club was founded in February, 1927. Mr. Walters, the present hon. secretary, had written to the London Aeroplane Club two years before for information of light aeroplane club organisation. This did not avail him much, however, because there was no local interest at Durban then. Subsequently he found enthusiasts and a drive for funds was arranged which produced £750, with the help of Major Miller and his D.H. "Moth." Twenty members had flights at ten guineas each, and flights were also raffled amongst the crowd at one shilling a ticket. As much as five pounds for a trip of two or three minutes was easily obtained. The sale of aerial photographs to commercial firms added to the funds and £185 was made by dropping 10,000 numbered pamphlets, the five winners receiving flights. Further income was derived from the advertising space on the pamphlets. A high wind that prevailed during the pamphlet campaign carried some of them a distance of fifteen miles and thus had a widespread publicity effect.

There are now four hundred members, of whom fifteen are awaiting instruction. The Club recently took delivery of a D.H. "Moth." Instruction fees have been fixed rather high: 15 mins. tuition costing 25s., and the minimum cost for the complete course being 25 guineas. To balance this partly, however, the subscription and entrance fees are at the low figure of £1 each. Solo charges will be the same as those for dual flying. Commercial flying will not be undertaken for the first few months or until some of the members have qualified as pilots. Also a strict rule will forbid members flying beyond gliding distance from the aerodrome.

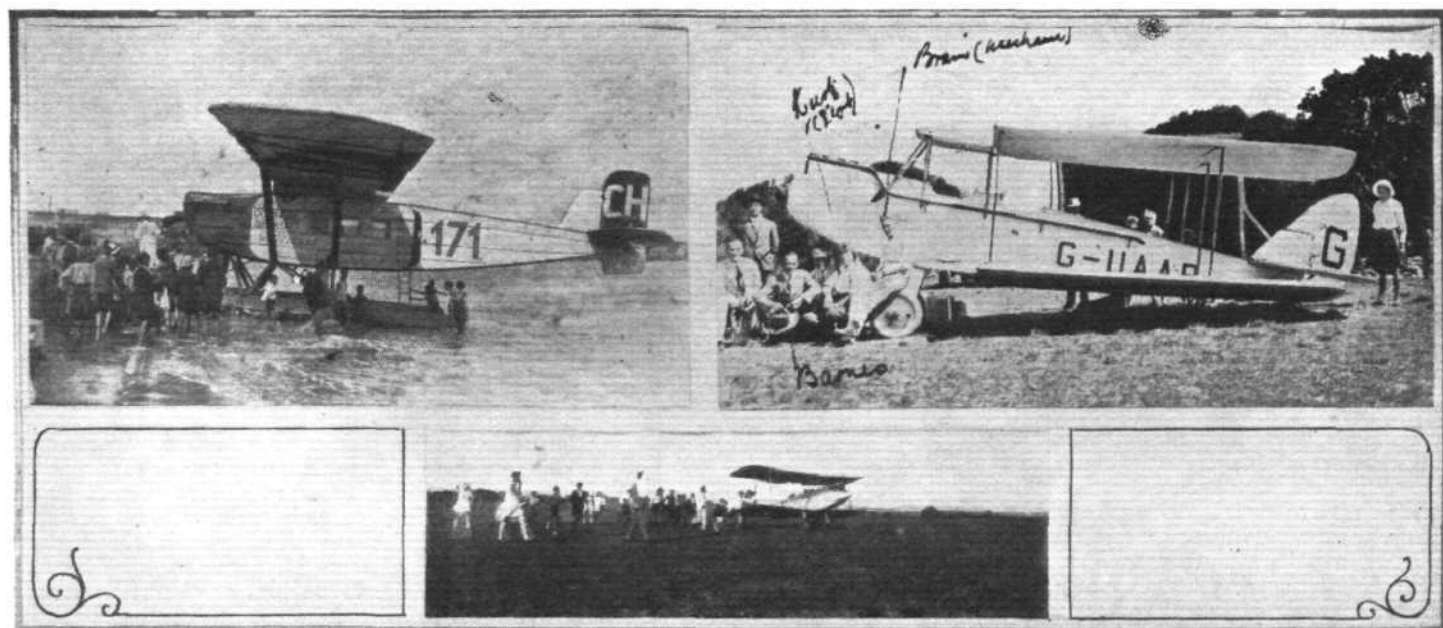
Two flying days were arranged by the Club whilst Lady Heath was there and the attendance was excellent. Owing to a leak in the petrol tank of her Avro "Avian" Lady Heath was not able to take up as many passengers as usual. A D.H.9 arrived from Pretoria flown by Major Meintjes, M.C., with Capt. Lindup, Secretary of the Civil Air Board, as passenger. It is hoped in South Africa that service machines will be seen more at civil air pageants.

A Country Club is situated near the aerodrome, where the usual social amenities can be enjoyed, such as dancing, tennis, and golf. Swimming is possible, too, for there is a beach only 100 yards away. This club will attract members to the flying club. It is possible that the two clubs will co-operate. Major Tait, who flew with Brock in 1912, is the Durban club's chairman. All the duties, down to those of the ground engineer's, will be done voluntarily.

Durban is the headquarters of the African Aerial Travels, Ltd., which was formed by Messrs. Swifts Motors (Proprietary), Ltd., with the help of Major Miller last year. This company started with three D.H. "Moths," and is kept very busy with passenger flights and commercial work.

Johannesburg

The next stage on the tour was to Johannesburg, on January 21. There was a clear sky and a 35-m.p.h. wind from the sea, which enabled the Avro "Avian" to pass Pietermaritzburg, 50 miles away, in half-an-hour, crossing a stretch of broken country known as the Valley of the Thousand Hills on the way. Beyond this town, the country was undulating and dotted with farms. The map carried was of little value, as no contours were shown, and only the largest of rivers. As the tributaries were swollen, it was difficult to identify rivers. Flying on a compass course, they came out at Ladysmith, instead of Dundee, six miles away. It was easily recognised by the Boer War Memorial, on a small hill to the north. Before reaching Dundee, the hills of the Drakensberg Range had to be traversed.



LADY HEATH'S TOUR IN SOUTH AFRICA: The picture on the left is of historical interest. It shows the arrival of the Swiss pilot, M. Mittelholzer, in his Dornier-Merkur "Switzerland" at East London, in 1926, during his great flight from Switzerland to South Africa. He is seen standing before the propeller. As a direct result of this visit, the East London Club was formed later on. On the right is the Club's D.H. "Moth," with a group of members and the staff, which includes the instructor, Mr. Kurtz, who gives his services voluntarily. In the bottom picture is shown the arrival of Lady Heath at East London in her Avro "Avian"



Major Miller has educated the towns very well, says Lady Heath. If a visiting machine circles the town twice before landing, transport and petrol becomes immediately available on landing. At Dundee, the aerodrome is in the centre of the racecourse, and the finest seen in the continent of Africa, north or south, by the visitors. There is a run into the prevailing wind of quite a mile on a surface like that of a billiard table. The aerodrome is always marked with a white circle, and its boundaries are traced clearly with white stones. Continuing the flight after lunch, the visitors covered another 100 miles and reached the High Veldt, which has a great area of level surface free of the troublesome ant hills, which, says Lady Heath, are the curse of landing in South Africa. A further flight of over two hours brought the wonderful gold reef of Johannesburg into sight; white piles of quartz thrown up from the mines. Johannesburg itself nestles in the middle of this 40-mile reef. As they were not due there until a day or two later, they flew on to Pretoria to pay respects to the South African Air Force, the Civil Air Board, and the Governor-General. The landing was made at Roberts Heights, opposite Lieut. Bentley's D.H. "Moth," in which he flew from London to the Cape. Sir Pierre van Ryneveld, Lady van Ryneveld, Lieut. Bentley and his fiancée, Miss Dorys Oldfield, were met.

They left later for Johannesburg, accompanied by Lieut. Bentley in his D.H. "Moth," in which, in the front cockpit, was Miss Oldfield sitting on Lady van Ryneveld's lap. The machine took off quite easily. A Johannesburg D.H. "Moth" met them over the city, piloted by Mr. Bellin, with Mr. Douglas, Secretary of the Club, as passenger. The Mayor of the town welcomed them, and the rest of the afternoon was spent in joy-riding.

The Johannesburg Club

This flying club was inaugurated at a meeting convened by the Mayor, Mr. Alf. Lew Palmer, on December 7, 1926, and the Governor-General became the Patron-in-Chief. Dr. Samuel Evans, who visualises air transport as a necessity for gold mining transport, is the President. An early pageant was held before any machines were ordered, and a charge of 2s. 6d. made. The Air Defence Force sent a number of machines across, and although no flights were made, the actual proceeds of the pageant were £587 8s. 6d. Such a tremendous crowd at the aerodrome had never been seen in the history of Johannesburg. It was found necessary, the next day, to put a notice in the *Rand Daily Mail*, asking those who had got in free in the crush to pay their conscience money. And most of them did. The aerodrome is, unfortunately, about seven miles from the town. It is 105 acres in extent, and is loaned to the Club by the Crown Mines, Ltd., of which Dr. Samuel Evans is the Chairman. He is trying to obtain another field at a more convenient distance. From the first, Mr. Rodd Douglas has been secretary and flown considerably for the Club. Having acquired over £1,100 by subscription, entrance fees, donations, and the proceeds of the pageant, the Club ordered a D.H. "Moth X," which was delivered from Cape Town. Johannesburg is the only club which boasts of a paid full-time inspector. The pilot, Mr. Bellin, is also a qualified ground engineer, and Mr. Veasey, a local agent for D.H. "Moths," gives his services voluntarily as ground engineer.

Dual charges are £2 10s. per hour; solo charges are £1 10s. per hour. About 180 members have enrolled, 35 of whom are flying members, and all but 10 of these are now undergoing instruction. The Club only insures for ground risks.

NORWICH AERO CLUB'S SOCIAL GATHERING

SIR SEFTON BRANCKER was the principal guest at a social gathering of the Norfolk and Norwich Aero Club on February 23. He had intended to reach Norwich by air, but fog made this impossible. The Lord Mayor was present, and in his speech he stated that, although a member of the club, the only flights he had taken were flights of the imagination. Time would determine whether he would fly. On several occasions he had been asked by people not opposed but rather sympathetic to the Norwich Club whether it was not to be regarded as simply an adjunct to war purposes. He had always flatly denied that.

The chairman said that February 23 was the anniversary of the club. The most striking feature of its career thus far had been its increase in membership. He doubted whether any club in the country, with the possible exception of London, could show such an increase. From a membership of 60 it had increased to 250, of whom 143 were flying members. In spite of bad weather, 303 hours had been flown and no fewer than 657 separate flights. No personal accident had occurred. Some people seemed to think that if they joined the club they were compelled to fly. This was not so. They were glad of flying members, but support was wanted from every source.

Sir Sefton Brancker next replied to the toast of "The Guest of the Evening," which Mr. C. R. Bignold had proposed, and which was drunk with musical honours. Beginning with warm congratulations on the successful start and rapid progress of the club, he then said that Norwich had advantages over any club in England. It had one of the best aerodromes within 10 minutes' drive of almost any part of the city. Sketching the history of the light aeroplane movement, he next showed statistically how great a success had been achieved since December 31, 1926. At that date there were 1,056 members, 97 pilots, and 55 qualified in the clubs. In 1927 there were 2,190 members, 233 pilots, and 136 qualified in the clubs. Since the start there had been only three fatal accidents. In one case the man was not medically fit; the second man had deliberately done dangerous flying, and the third was a victim of careless flying. There was

no accident which could be put down to the danger of flying in itself.

Turning to the attitude of the Air Ministry, Sir Sefton Brancker said, "We want you to run your own show." Private enterprise suited British enterprise best. At the same time, the Air Ministry would help the club in every way possible except in finance. He believed the members all hated the dole.

Why were the Government taking such interest in light aeroplane clubs? The fact was that we, as a nation, were in a very paradoxical position. We had been, and still were, a very great sea power, because of our wonderful natural harbours, central geographical position, and genius in the race which tended to make us a nation of sailors; but we had no direct and immediate incentive to make us a nation of airmen. We had good railways covering short distances, and our climate, for flying, was foul. He contrasted these conditions with those of Russia, Germany, and America. Sir Sefton pointed out that America, with its enormous distances, scattered cities and wealthy population, owned from 2,000 to 3,000 private aeroplanes flying regularly outside of the air lines. We needed in this country air education, and the flying club was a step in the right direction. There would probably come a day when Norwich was one of the great air ports in this country with lines to every part of Europe. Aviation was more important to us than to anyone in the world. In conclusion, Sir Sefton Brancker said that Hinkler had done the finest thing anyone had done in civil aviation since the end of the war.

Lady Bailey was one of the concluding speakers, and she congratulated the club on its progress.

Amongst those present were: the Lady Mayoress; the Sheriff, Mr. T. F. Southall; Capt. A. A. Rice, M.C. (chairman of the club); Capt. H. J. Cator (vice-chairman) and Mrs. Cator; Mr. J. D. North; Sqdn.-Ldr. Rae; Mr. and Mrs. C. R. Bignold; Mr. R. Harmer; Mr. Lincoln-Sutton; Mr. F. W. W. Morgan; Mr. F. Gough (manager), and Mr. H. O. Bennett (secretary).

Sir Sefton left Norwich by air in his D.H. "Moth" after his visit.

Johannesburg Air Meeting

THE Light Aeroplane Club at Johannesburg, particulars of which are contained in the article above on South African flying clubs, held an air meeting on Jan. 26 and the succeeding days, at which a varied programme of air events was carried out. Amongst the competitors were Major Miller, Lieut. Bentley, Lady Heath and Capt. Bellin. The machines entered were D.H. "Moths" and the Avro "Avian."

Sunstroke in the Air

WHILST flying between Pretoria and Bulawayo Lady Heath was attacked by sunstroke and forced to land. A night was spent in a native hut and she was found the following day, February 26, by motorists who took her to a farm where, after resting for a day or two, she resumed her flight towards Cairo. She arrived safely at Victoria Falls on February 28.

LIGHT 'PLANE CLUBS

London Aeroplane Club, Stag Lane, Edgware. Sec., H. E. Perrin, 3, Clifford Street, London, W.1.
Bristol and Wessex Aeroplane Club, Filton, Gloucester. Secretary, Capt. C. F. G. Crawford, Filton Aerodrome, Patchway.
Hampshire Aero Club, Hamble, Southampton. Secretary, H. J. Harrington, Hamble, Southampton.
Lancashire Aero Club, Woodford, Lanes. Secretary, C. J. Wood, Oakfield, Dukinfield, near Manchester.
Midland Aero Club, Castle Bromwich, Birmingham. Secretary, Maj. Gilbert Dennison, 22, Villa Road, Handsworth, Birmingham.
Newcastle-on-Tyne Aero Club, Cramlington, Northumberland. Secretary, A. H. Bell, c/o The Club.

Norfolk and Norwich Aero Club, Mousehold, Norwich. Manager, F. Gough, The Aerodrome, Mousehold, Norwich.
Nottingham Aero Club, Hucknall, Nottingham. Hon. Secretary, Cecil R. Sands, A.C.A., Imperial Buildings, Victoria Street, Nottingham.
The Scottish Flying Club, 101, St. Vincent Street, Glasgow. Secretary, Harry W. Smith.
Southern Aero Club, Shoreham, Sussex. Secretary, C. A. Boucher, Shoreham Aerodrome, Sussex.
Suffolk Aeroplane Club, Ipswich. Secretary, Courtney N. Prentice, "Hazeldehl," Stowmarket, Suffolk.
Yorkshire Aeroplane Club, Sherburn-in-Elmet, Yorks. Secretary, Lieut.-Col. Walker, The Aerodrome, Sherburn-in-Elmet.

LONDON AEROPLANE CLUB

REPORT for week ending February 26.—Flying time, 10 hrs. 35 mins.; dual instruction, 7 hrs. 20 mins.; solo flying, 3 hrs. 15 mins.
Dual instruction (with Captain F. G. M. Sparks): J. A. Murphy, Mrs. Fraser, Rich Hayes, J. A. Brewster, E. T. Symmons. (With Captain S. L. F. St. Barbe): Rich Hayes, Mrs. Fraser, C. R. Jones, A. Mason, J. C. M. Watson, Miss H. Choimondeley, E. R. Andrews.
Solo flying: R. Sanders Clark, Rich Hayes, J. J. Hofer, N. Jones, A. F. Wallace, H. B. Michelmore.
On Tuesday the 21st instant, Rich Hayes, flying solo G-EBMP, alighted on the boggy part of the Aerodrome with the result the machine turned completely over and was damaged considerably.
It was unfortunate that during the very fine week-end, the fog and mist hung about the Aerodrome and flying was practically impossible.

BRISTOL & WESSEX AEROPLANE CLUB

REPORT for week ending February 25.—Total flying time, 27 hrs. 20 mins. Instruction with Mr. Bartlett, 13 hrs.; (with Mr. Tratman): 45 mins. Solo: 12 hrs. 50 mins. Passengers: 45 mins.
Under instruction: Major Hume, Messrs. Greenhill, Bryan, T. H. Clarke, Candy, Girdlestone, Bolas, H. A. Tiarks, Arnold, Roberts, Bathurst. Soloists: Messrs. Tratman, T. H. Clarke, Arnold, Roberts, R. A. Hall, Downes-Shaw, Candy, Bolas, Bathurst, Jopp, Holmes.
Passengers (with Mr. Tratman): Mr. L. Leaver; (with Mr. Bathurst): Rev. Kay.
The fine weather enabled us to break our previous record of 23 hrs. by 2 hrs. 20 mins.
Last Sunday Mr. Downes-Shaw took Mr. Jopp as a passenger to Hamble aerodrome where he interviewed the officials of the Hampshire Club. He also went on another occasion to Gloucester for a visit to the aerodrome there. These cross-country flights are a real proof of the utility and value of the light aeroplane.
We had the pleasure of sending a telegram of hearty congratulation to Mr. Hinkler on the success of his splendid voyage to Australia.

HAMPSHIRE AEROPLANE CLUB

REPORT for week ending February 26.—Flying time, 54 hrs. 40 mins.; solo flights, 32 hrs. 35 mins.; passenger flights, 9 hrs. 30 mins.; tests 1 hr. 10 mins.
Instruction (with Flt.-Lt. Swoffer): Mrs. Ranald, Watson-Taylor, Lt. Ranald, Lt. Richardson, Leach, Scott-Hall, Yeatman, Perfect, Heineman, Fry, Fawkes, Shepherd, Kerry, Southcliffe, Baynes, Mandeville, Whittle, Puttock, Bull, Courtney, Curtis-Nuthall.
Soloists: Heath, Kirby, Cripps, Fry, Mrs. Ranald, Cierva, Leach, Cooper, Shepherd, Yeatman, Heineman, Perfect, Fawkes, Raynham, Capt. Balfour, Baynes, Deane, Parker, Fagan, Wells, Bowen, Lt. Ranald.
Passengers: (with Flt. Lt. Swoffer): Mr. Dickson, Mrs. Crook, Mr. Matthews, Mr. Cripps, Lt. Pugh, Mrs. Swoffer, Capt. Balfour, Mrs. Pashley, Mr. Rosevear, Lt. Unwin, Mrs. Balfour, Mr. Mariner, Mr. Ebbutt; (with Cierva): Mrs. Cierva, Mrs. Swoffer; (with Leach): Mr. Lumsden; (with Mrs. Ranald): Lt. Ranald, Lt. Simpson; (with Mr. Raynham): Mrs. Raynham; (with Mr. Deane): Mr. Ferdrey, Mr. Stokes; (with Mr. Bowen): Mr. Burney.
Owing to the great keenness of some of the members, and the energy and able assistance of the ground engineer and his assistant, i.e., Mr. Denny and Mr. Tubbs, we have had a record flying week for the club, and on Sunday we had a record day of 14 flying hours, we were assisted of course by the fine weather.
We have now three machines, and members can always be sure of getting a flight when they attend at the club.
Mrs. Ranald who is qualifying for her "B" licence gave a very fine exhibition of aerobatics during the week to the delight of our less advanced pupils.
Messrs. Downes-Shaw and Jopp of the Bristol Club and Captain Stack from Croydon paid us a visit last week, and we were pleased to welcome them.
We were delighted at Hinkler's wonderful success, and hope he will be available to take part in our pageant at Whitsun, together with his Avian.

LANCASHIRE AERO CLUB

REPORT for week ending February 25.—Flying time, 25 hrs. 20 mins. Instruction, 10 hrs. 35 mins.; solo flights, 8 hrs. 25 mins.; passenger flights, 5 hrs. 5 mins.; tests, 1 hr. 15 mins.
Instruction: (With Mr. Baker): Messrs. Cohen, Stern, Benson, Harber, Brooking, Tweedale, Meade, Secker, Williams, Michelson, Ruddy, Riley, Goss, Gort, Brown. (With Mr. Wade): Messrs. Gerrard, Caldecott and Hall. (With Mr. Cantrill): Mr. Davison, Miss Baerlein.
Soloists (under instruction): Messrs. Hall, Gort, Gerrard, Ruddy and Stern.
Pilots: Messrs. Browning, Caldecott, Meads, Harber, Twemlow, Gattrell, Williams, Michelson, Leeming, Lacayo, Wade, Goodfellow, Chapman.
Passengers: (With Mr. Goodfellow): Mrs. Richmond, Messrs. Taylor, Mills, Dyson, Lord, Johnson, and Richmond. (With Mr. Cantrill): Mrs. Williams, Messrs. Gorton, Preston, and Wimmer. (With Mr. Baker): Messrs. Stross, and Brooke. (With Mr. Scholes): Mr. Kemp. (With Mr. Meads): Mr. Griffiths. (With Mr. Twemlow): Mrs. Twemlow, Mrs. Mortimer, Messrs. Mortimer, Browning, and Allott.
There was great rejoicing over Harry Stern's first solo. Nearly two years ago, taking off on what should have been his first solo flight, he had the misfortune to turn the machine over. Since then various strokes of ill-luck, including an operation and a rather slow recovery, have kept him back, but last Sunday saw him safely launched amidst universal congratulations from his fellow-members.

Messrs. Hall and Gort completed their figures of eight and landings, the latter also carrying out his height test.
On Tuesday MQ lost a wheel while taxiing and badly damaged a wing. She will be flying again this week.
This week's Fable.—"I'm getting very tired of this sunshine," said a member of the Lancashire Aero Club.

MIDLAND AERO CLUB LIMITED

REPORT for week ending February 25.—Total flying time, 16 hrs. Dual instruction (with Mr. McDonough): E. Wynn, G. Aldridge, S. G. Hall, J. H. Baker, G. Robson, J. Rowley.
Solo: R. D. Bednell, W. Swann, E. J. Brighton, H. J. Willis, S. H. Smith, E. R. King, G. Robson, J. Rowley, R. L. Jackson, C. W. Fellowes.
Passengers (with Mr. Jackson): Mrs. Harley, L. V. Mann, W. M. Morris. (With Mr. Brighton): E. J. Wynn, J. H. Moon. (With Flight-Lieut. Rose): Mrs. Willis, E. P. Lane.
On Tuesday Mr. Robson was launched solo, which he performed satisfactorily.
The club, under the presidency of Mr. Herbert A. Pepper, chairman of the council, on Friday evening entertained to dinner Mr. McDonough, who has been flying instructor for the past two and a half years and has received an appointment in Canada. Many tributes were made to the exceptional abilities of Mr. McDonough as an instructor, and also to Mr. W. J. Halland, the ground engineer, for having maintained such a high standard of aircraft maintenance.
Flight-Lieut. T. Rose, D.F.C., the newly appointed instructor, replied to the toast of "The Visitors," proposed by Maj. Gilbert Dennison.

NEWCASTLE-UPON-TYNE AERO CLUB

REPORT for week ending February 26.—Total flying time, 27 hrs. 40 mins. Instruction, 15 hrs. 35 mins.; tests, 55 mins.; soloists (instruction), 1 hr. 55 mins.; "A" pilots, 8 hrs. 20 mins.; passengers, 1 hr.
Instruction (with Mr. Parkinson): Miss Rambaut, Messrs. Percy, Griffiths, Runciman, Glenny, J. Bell, Lloyd-Brown, Horn, Maxwell, MacKay, V. Heaton, Mehan, Dr. Alderson.
"A" Pilots: Mrs. Heslop, Miss Leathart, Messrs. Turnbull, Wardill, Robertson, H. Ellis, Phillips, R. N. Thompson, C. Thompson, D. Wilson, Dr. Dixon, A. Bell.
The following members carried out first solo flights, all in a very satisfactory manner: Dr. Alderson, Mr. Mehan, and Mr. Percy.
Passenger flights (with Mr. Parkinson): Miss F. J. Ellis. (With Mr. C. Thompson): Mrs. Heslop. (With Mr. A. Bell): Mr. J. Bell.
The landing competition for the cup presented by Mrs. J. D. Irving was held on Sunday, in spite of a rather bad haze. Mr. F. Howard Phillips was the winner, and the following pilots took part in addition: Mr. J. D. Irving, Mrs. Heslop, Miss Leathart, Messrs. D. Wilson, F. L. Turnbull, C. E. Shaw, H. Ellis, Dr. H. B. L. Dixon, Messrs. C. Thompson, A. Bell.
A further competition for the trophy presented by Flight-Lieut. F. Pearce and Flying Officer Thorn will take place on March 25.

NORFOLK & NORWICH AERO CLUB

REPORT for week ending February 26.—Total flying time, 17 hrs. 40 mins. Instruction (with Capt. Lines): N. Brett, W. Cullum, G. Watson, Parker, G. Barker, F. Lambert, C. Gowing, R. F. Potter, G. Surtees, H. Mack.
Soloists.—R. T. Harner, W. P. Cubitt, W. A. Ramsay, F. Gough, H. Pank, R. Moore, W. S. Townen, N. Brett.
Passengers.—Miss R. Moore, Mrs. G. Watson Barker, Miss Doone, Miss Mary B. Sutton, Miss Pank, Messrs. A. J. K. Finch, A. E. Plumstead, L. Gowing.
Mr. N. Brett accomplished his first solo in a most creditable manner. This is the first pupil to be trained solely on the Avro, and the result is very satisfying.
At last we have been able to start on the Club House Improvements, and a Ladies' Cloak Room has been added. In future, on Saturdays, light luncheons will be obtainable at the Club House.
We are pleased to announce that an Avro Avian machine will visit us during the week and will stay several days. Also within the next fourteen days, we hope to have a visit of Blackburn, Westland Widgeon, and Moth "X" machines, and we hope as many members as possible will come and view them.
Mr. A. Kirkby commences duties on Monday next as Ground Engineer for the Club.
As our Flying kit is now in a very dilapidated condition, members are advised that they will have to provide their own in future. We feel this will be a far better arrangement.
The Club House Improvement Fund has now reached the sum of £25, but to carry out all we have in mind, in this departure, it will have to be doubled.
Arrangements are made to lay a Putting Green almost immediately, close to the Club House, and a Badminton Set is being installed in the hangar, thus, while members are waiting to fly, they will be able to avail themselves of some other form of sport.
Since the re-organisation of the Club, 45 associate and 8 active members have been enrolled, bringing the total membership up to 223.

NOTTINGHAM AERO CLUB

REPORT for week ending February 17.—Flying time, 6 hrs. 10 mins. Dual 2 hrs. 35 mins.; solo "A", 1 hr. 5 mins.; solo (under instruction), 50 mins. tests time, 25 mins.
Passengers.—(With Mr. Martin): Mr. Raven; (with Mr. Hallam): Mr. Kay; (with Mr. Wilcox): Mr. Walter.

Dual.—(With Mr. Martin): Messrs. Pilgrim, Walter, Calladine, Glenn and Ashworth.

Solo "A" Licence.—Mr. Hallam and Mr. Wilcox.

Solo "A" Licence (under instruction).—Messrs. Whitby and Blake.

Flying time sadly restricted by wind and rain.

We have to welcome two more "A" licences to the fold: Mr. Cyril Sands and Mr. Seeley Whitby, both pilots of considerable skill and experience, who have re-qualified with the club. We are now expecting a further outbreak of passenger carrying for the good of the cause.

SOUTHERN AERO CLUB

REPORT for week ending February 26:—Flying time, 18 hrs. 39 mins. Instruction, 1 hr. 21 mins.; solo flying, 5 hrs. 30 mins.; passenger flying, 11 hrs. 18 mins.

It is hoped, from now on, to include a weekly report for this Club in this section of FLIGHT. Meanwhile it is necessary to correct an error that appeared in FLIGHT for February 16 (page 103), where it was stated that Mr. F. G. Miles was the Club's Chief Instructor. As a matter of fact, Mr. Cecil L. Pashley, who has been flying since 1908, has been Chief Instructor since the formation of the club in 1925. Incidentally, Mr. Pashley was associated with Shoreham (in partnership with his brother, Eric Pashley) even before this time.

SUFFOLK AEROPLANE CLUB

REPORT for week ending February 26:—Flying time 13 hrs. 35 mins. Instruction with Mr. Lowdell.—Miss Sylvia Edwards, Miss Georgia Rhodes, Dr. Dunn, C. Hanson, R. Brown, K. Peck, T. Marriage, F. Verney, G. Smith.

Passengers with Mr. Lowdell.—Miss Payne-James, Dr. Payne-James, Mr. Robb, Mr. Walker, Mr. Barrett, Mr. B. F. Marriage, Mr. Day, Mr. Low.

Passengers with Mr. Prentice.—Mr. Yelliby, Mr. Burrows.

Soloists.—Dr. Jas. Sleigh, S. Schofield, K. Peck, R. Brown, C. N. Prentice.

Although we had the misfortune to break a tail skid post which held up flying for two days, we have managed to pile up the hours pretty well considering we have only one machine.

On Saturday, Mr. Kenneth Peck was launched solo after having only four hours dual; he put up an excellent performance.

FROM THE FLYING SCHOOLS

De Havilland Flying School, Stag Lane Aerodrome. Report for week ending February 26.—Total flying time, 37 hrs. 55 mins.; Instruction (dual), 7 hrs. 50 mins.; (solo), 16 hrs. 55 mins.; other flying, 13 hrs. 10 mins.

Despite the fine weather which has been experienced during the past week the early morning mist has persisted so far into the day that only a relatively small amount of flying has been possible.

In addition to the normal school work, tests and demonstrations to the extent of 13 hrs. 10 mins. have been carried out, including some very important tests on Handley Page Slots, and other special experiments.

Henderson Flying School, Brooklands Aerodrome. Report for week

Mr. Roger Brown also went off solo on Sunday, and made a number of circuits and remarkably good landings. We hope to pick the Treasury pocket pretty heavily within the next few weeks if this excellent weather continues.

"Don't Forget the Air Display Easter Sunday and Monday."

YORKSHIRE AEROPLANE CLUB

REPORT for week ending February 18.—Flying time, 4 hrs. 35 mins. Instruction, 2 hrs. 25 mins. Soloists, 1 hr. 40 mins. Passengers, 30 mins. Instruction (with Capt. Beck): Messrs. Ambler, Ellison, Humphries, Arthur Senior.

"A" Pilots: Messrs. I. Thomson, Wood.

Passengers with Capt. Beck: Messrs. Blackburn, Miller.

Our activities have been confined to one machine and one day's flying this week. However, today (Sunday) looks highly promising, and we hope the Clerk of the Weather will be more kind to us than of late.

We hope to have G-EBSV back about the middle of the week when we may be once again in the running with the London Club in the matter of flying hours.

REPORT for week ending February 25:—Flying time, 5 hrs. 10 mins. Instruction, 3 hrs. 35 mins.; soloists, 1 hr. 30 mins.; passengers, 5 mins.

Instruction with Captain Beck.—Messrs. Ambler, Clapham, Clayton, Ellison, Hepworth, Arthur Senior.

Soloist.—Mr. Clapham.

"A" Pilots.—Messrs. Ellison, I. Thomson.

Passenger with Captain Beck.—Mr. Thornton.

Last Sunday the weather was perfect and the bookings complete, but troubles arose in another direction. At 3 o'clock our one and only aeroplane was perched on the cricket pitch in the village of Sherburn, having lost one of its propeller tips.

On Tuesday we still had no machine, and on Wednesday, Mr. Clapham went up to remain in the air only 5 mins. before his engine seized. That left us without anything to fly until Friday, when SV was delivered from Brough, after undergoing its modifications.

Saturday and today, thick fog, so the least said about last week, soonest mended.

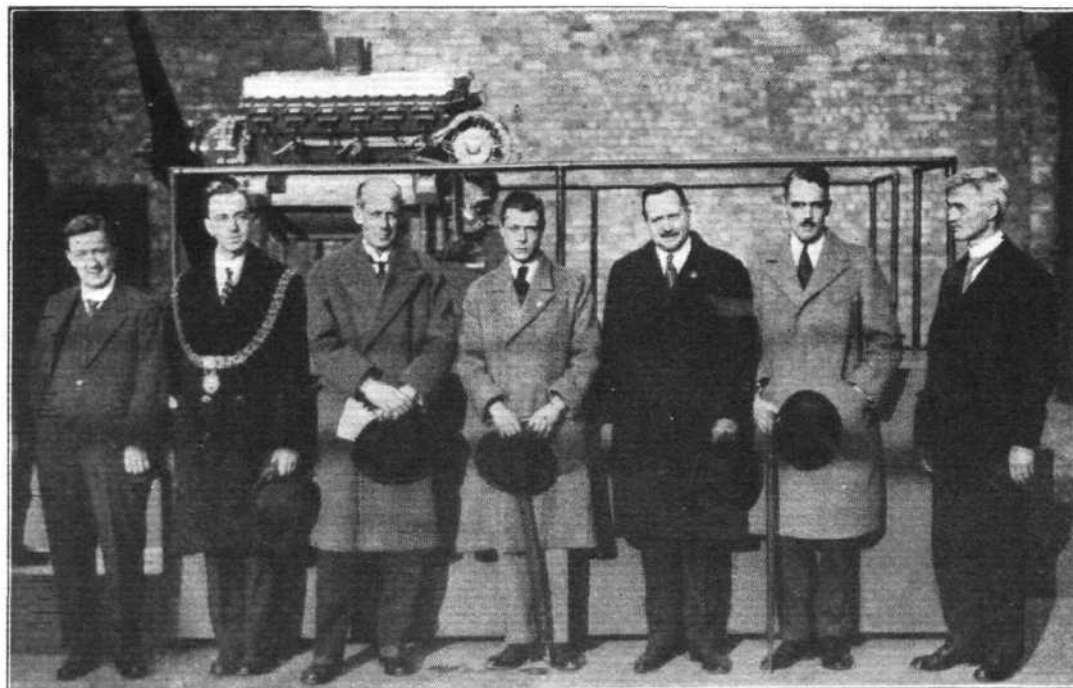
ending February 22.—Total flying time, 19 hrs. 25 mins.: Dual instruction, 15 hrs. 15 mins.; solo, 4 hrs. 10 mins.

Dual.—With Mr. H. D. Davis: Messrs. McCabe, Van Gessel, Cooper, Whitley, Mrs. Ranalds, Liniker, Crabtree, Hunter, Dr. Wall, Dr. Foreythe, Lattey.

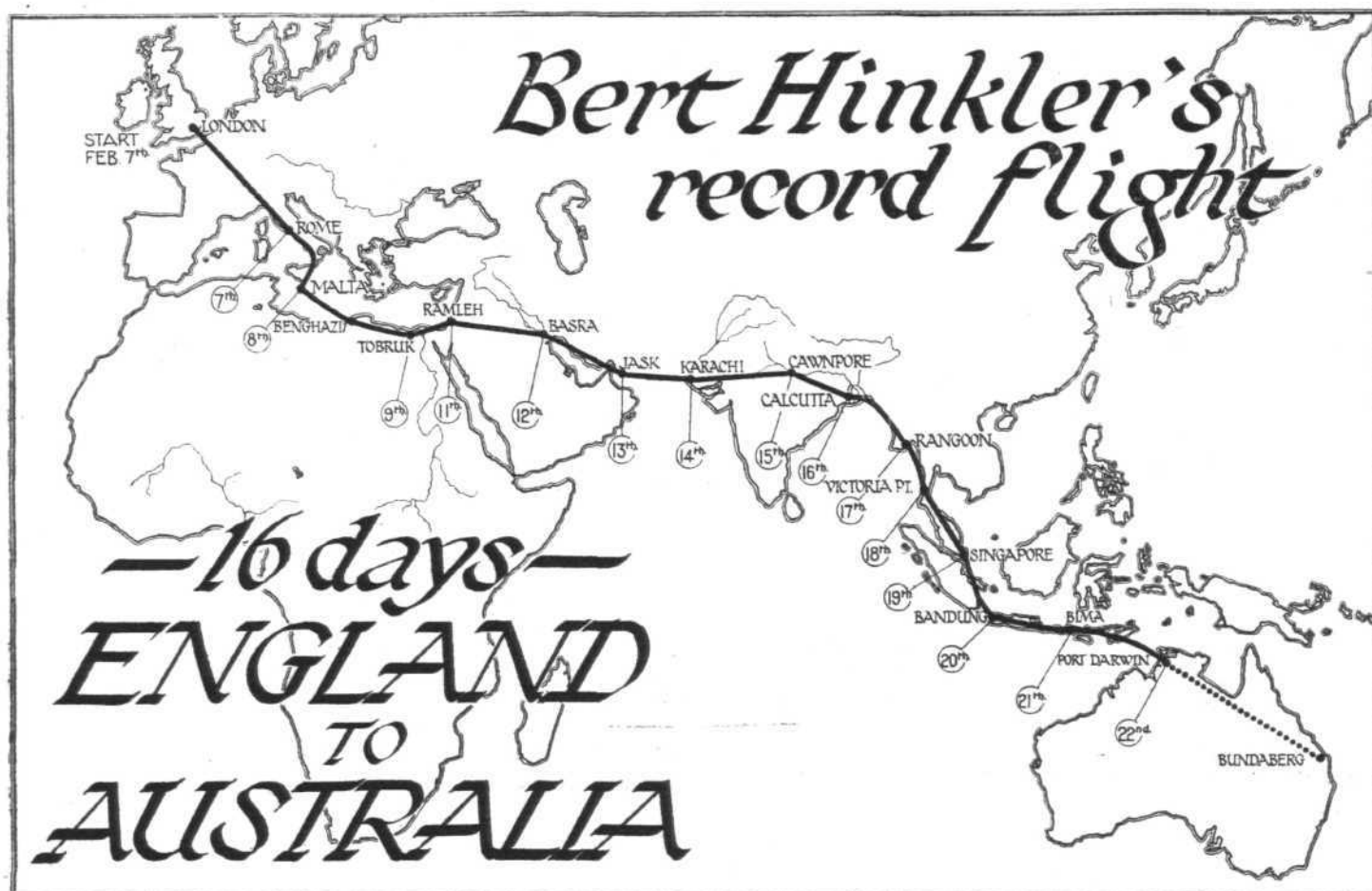
Solo.—Messrs. Crabtree, Liniker, Mrs. Ranalds and Dr. Wall.

Mr. Crabtree is now flying A.J. front seat and is well on the way for his "B" licence. Mr. Whitley and Mr. Lattey were launched off solo and both put up a very good show.

The enthusiasm at the School is now up to "fever heat," and on several occasions Very lights have had to be fired off to get the Soloists to land. The new dual machine is now almost completed and should take the air during the week.



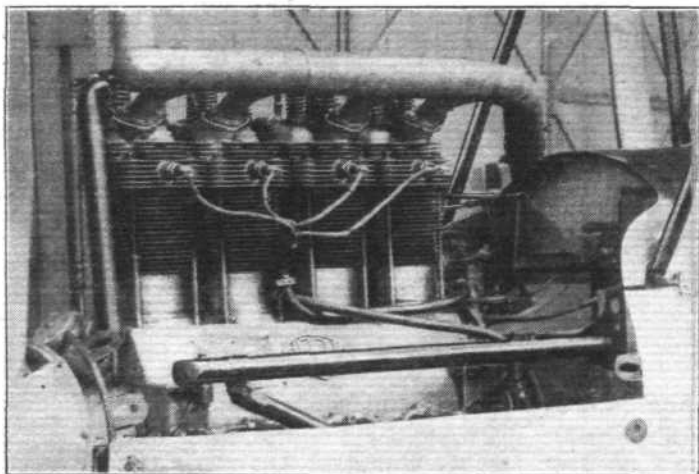
H.R.H. the Prince of Wales, who has for many years possessed and used Rolls-Royce cars, paid a visit to the works at Derby on February 21, when this photograph was secured. Reading from left to right those seen are: Mr. H. Wormald, O.B.E. (General Works Manager, Rolls-Royce, Ltd.), His Worship the Mayor of Derby, Mr. Basil Johnson (Managing Director of Rolls-Royce, Ltd.) H.R.H. the Prince of Wales, Lt.-Col. the Lord Herbert Scott, C.M.G., D.S.O. (Director of Rolls-Royce, Ltd.), the Hon. Bruce Ogilvie (Equerry to the Prince), and Mr. A. J. Rowledge (Assistant Chief Engineer of Rolls-Royce, Ltd.). In the background can be seen the new engine designed by Mr. F. Henry Royce to fulfil the special requirements of the Royal Air Force, and which has many new features incorporated in its design.



IN last week's issue of *FLIGHT* we gave a complete statistical account of Mr. "Bert" Hinkler's record flight from London to Port Darwin, Australia. This week we are able to follow up with the full story and the outstanding experiences of the pilot up to his landing at this home town, Bundaberg.

In this town its now most prominent citizen made his first attempts to fly when a boy on home made gliders. Now, appropriately enough, the success of the great flight reflects upon it, too. It has been put on the map, and its name will always be echoed when the history of aviation is surveyed.

The obvious danger of the lonely sea crossing of 600 miles which dramatically ended the great flight gave everyone a natural apprehension until it was safely conquered, and then the admiration for "Bert" Hinkler was the more profound. The night before he left Bima he had practically no sleep owing to the annoying attentions of mosquitoes in the native hut in which he slept and on which rain pelted down. At dawn he started, spurred partly by the comforts of civilisation that awaited at Port Darwin 1,000 miles away.



This is the A.D.C. "Cirrus" 30/80 H.P. engine which played such a magnificent part in the record flight to Australia in 16 days. Despite the gruelling test to which it was subjected it ran faultlessly, and never gave "Bert" Hinkler the slightest trouble from London to Bundaberg. Perhaps its most exhaustive test of reliability came on the vital crossing of the Timor sea after it had already flown 10,000 miles.

A little difficulty was experienced in climbing through the mountains to the south of the landing place at Bima. No food or water was carried on the sea trip, and his only refreshment before starting was a drink of water. Dutch officials and natives gave him assistance there. Clouds gave trouble over the sea, but he maintained an altitude of 2,000 ft., and a speed of 92 m.p.h.

A natural anxiety was felt by him when the last of the Sunda Islands was left and 600 miles or so of open sea faced him, but the sound of his "Cirrus" engine was very reassuring, and he had actually flown over the sea all the morning from Bima. His compass reckoning proved very accurate, and Australia was sighted at 4 p.m.

Port Darwin

Following the coast he reached Port Darwin, coming in over the jungle and circling the Ross Smith Memorial twice, at 6 p.m. (Australian Time) on February 22. Great crowds had waited hours for him at Fannie Bay, the landing ground, three miles from the town, and when at 5 p.m. the cruiser *Melbourne*, which was steering north towards Hinkler's supposed track, wirelessly that the "Avian" was not in view many of them went home very disappointed.

On behalf of the Commonwealth Government the Government Resident welcomed him. He looked well and sun-burnt, but very tired. That evening the Civic Authorities and Returned Soldiers' Association gave a dinner in his honour. In a speech Hinkler said that the most critical day of the whole trip was the first, when he flew for three hours in darkness before reaching Rome from London on a non-stop flight. No engine trouble had been experienced in the least, and it was the fleeting daylight on each long stage that gave most anxiety. This eventually caused a forced landing in the desert in North Africa, where natives approached him with uncertain attitude until he made them friendly by the gift of cigarettes.

Missing

After remaining at Port Darwin to rest for two days Hinkler took off on February 24 with the intention of reaching Bundaberg in two long hops. The first of these attempted was to Cloncurry, a distance of 800 miles but at mid-day the heat was so intense that it forced him to rise to 10,000 ft. But at this altitude he found dust storms and haze, which limited visibility, and head-winds. Then a forced landing was decided upon and made successfully beside a windmill station about 200 miles north-west of Camooweal, after a flight of 600 miles from Port Darwin.

Underneath the windmill he spent the night, whilst great anxiety spread throughout the world, as he was unable to send a message explaining his predicament. In the morning the flight was resumed for a distance of 50 miles to Alexandria station for breakfast. The people there had only heard of his departure from England a day or two before. Later in the day Camooweal was reached. This place is a great Queensland cattle centre, and was recently made an air port.

The news of his safety was then made known and brought wide relief. Measures to search for him had been hurriedly prepared. Aircraft were in readiness, and one or two started out. It was found that the "Avian" had been seen two hours after its departure from Port Darwin passing over Katherine, but from then it had not been observed. Hinkler was none the worse for his adventure.

Short hops were flown after the start from Camooweal, the places visited being MacKinley, Winton and Longreach. At the latter town most intense enthusiasm prevailed, and it seized a bystander to such a pitch that he promptly snatched "Bert's" Luxor goggles. A plea for their return was later obeyed.

Bundaberg—Home

Amidst tremendous excitement and pride "Bert" landed at his home town, Bundaberg, at 4.15 p.m. on February 27. Ten thousand people cheered frantically, women danced with joy, fire-bells clanged, engines whistled and motor cars tooted. As he stepped from the "Avian" women dashed at him and kissed him. Then he was carried shoulder high to a platform, where, amid a wild chorus of cheers he said: "I am too overcome to say much." A procession led the hero to his mother's home, four bands and a big fleet of motor cars in front. Outside his mother's home there was a happy reunion after eight years. A civic reception followed, at which Col. Brinsmead, Australian Controller of Civil Aviation, suggested the possibility of a knighthood for the pilot. "Bert" said in his speech that the cost of his flight from England was £50. The Premier, Mr. McCormack, handed him a cheque for £500, a gift from the Government of Queensland. He said that Mr. Hinkler had given the State the greatest advertisement it had ever received.

Before this last stage of the flight from Longreach, a distance of 550 miles to Bundaberg, he had worked until 2 a.m. preparing the "Avian" for it, and went back to the aerodrome at 6 a.m. At Barlaba, 380 miles from Longreach, he circled over his aunt's home. The coast was touched at Rockhampton and then followed to his destination. The whole town had ceased work that day in readiness for its hero.

Congratulations.

His Majesty the King sent the following message of congratulation through the Governor-General, Lord Stonehaven:—

"Please inform Mr. Hinkler that I have received the news of his safe arrival in Australia with great pleasure. I have personally watched the progress of the great flight with great interest and am delighted that it has been successful."

Sir Samuel Hoare sent the following message:—"On behalf of the Air Council I send you warm congratulations on the record achievement which you have accomplished on an Avro-Avian, with 'Cirrus' engine. Your flight from London to Australia in fifteen days' flying, unaccompanied and in a light aeroplane, is one further proof of what British pilots in British aircraft can do to link the Empire by air."

In Parliament Sir Samuel Hoare said that Hinkler had:—"Shortened the air journey to Australia by between 12 and 13 days. Made the longest solo flight in history. Made the longest light aeroplane flight. Made the first non-stop flight to Rome. All places beyond India were reached in a shorter time than had ever been achieved. The total flying time was 134 hours, so that the flight would have taken 5 days 14 hours if it had been made continuously, flying by day and night."

"Taking the total time spent on the flight, including nights and halts in the daytime on the ground, the average speed per hour throughout was well over 30 miles, whilst taking the time spent in the air only, it works out at an average of about 89 miles per hour. Further, 12,000 miles were covered without any repairs, a striking testimony to the reliability of machine and engine."

"One of the most striking features of the flight was that the machine employed was a standard Avro 'Avian' with a 'Cirrus' engine, which had been in use since 1926, and the only alteration made prior to the flight was the incorporation of extra tankage. A machine of this type costs complete, apart from the extra tanks, only £730, and an approximate estimate of the cost of the flight in terms of the petrol and oil consumed—

as I have already said, no repairs were carried out—was £50.

"These figures were a striking indication of the great potentialities of aircraft for improving communications in the vast stretches of the Empire in which other means of communication are as yet non-existent or relatively undeveloped."

The Royal Aero Club at first cabled to Hinkler the simple message "Bravo."

Lord Thomson, Chairman of the Royal Aero Club, cabled:—"On behalf of members of Royal Aero Club, please accept warmest congratulations upon safe arrival of your great Australian airman, Hinkler, whose magnificent flight from Mother Country to Australia constitutes a unique performance, and will stimulate the development of Empire air communications, which we all desire."

Mr. Bruce, the Prime Minister, announced in the House of Representatives at Canberra on February 24, that the Government had invited Hinkler to visit Canberra. On his arrival he would be asked to accept a cheque for £2,000 and a suitable memento of the flight. This action had been taken in recognition of Hinkler's skill, courage and amazing indomitableness of purpose.

Mr. Bruce also expressed the hope that he would have the opportunity of welcoming Hinkler in person at the seat of Government at an early date. He cabled to Sir Charles Wakefield: "Great pleasure in accepting generous offer of 'Avro-Avian' plane. Nothing could more fitly mark the great achievement of Hinkler. I feel sure that the gift will



This is the great "little" Australian pilot, Mr. "Bert" Hinkler, who has stirred the world with his flight to Australia in 16 days as much as Lindbergh did with the lone Atlantic flight last year.

be an inspiration for the development of aviation in Australia."

Sir Charles Wakefield said that in offering this light aeroplane to the Commonwealth he had in mind the encouraging of the formation of light aeroplane clubs throughout Australia on the lines of those which are so successfully marking the development of private flying in Great Britain. (The machine in question is not Hinkler's.)

Commercial Offers

"Bert" Hinkler has been inundated with fabulous financial offers since completing the flight. A theatrical syndicate offered £10,000 for a six months' contract. One offer was from a film company to appear in a film production for a fee of £1,000, and another gave him the opportunity of becoming a lecturer at his own terms. A business firm offered him a position as traveller at £1,000 per annum. A national shilling fund has been organised by the *Sydney Evening News*. Other newspapers are organising similar funds. Every city wants to see him.

Experiences of the Flight

By far the greatest anxiety of the flight from England was the extreme care of his Avro "Avian" at night. He felt much safer with it when he was flying during the day, but at night it was necessary to have a guard placed over it in many strange places. At Victoria Point, where the night was spent in a planter's bungalow, the machine was pinned down on the fringe of the jungle. Over India and the East Indies the heat was intense and made the cockpit like an oven, yet despite this and the weariness of flying so many hours day after day it was only on the ground that he felt strain and fatigue. This was aggravated to some extent by the need of a careful examination of the engine and machine immediately after each landing and preparing it for the early morning start. To this procedure he owed the success of his extraordinary rapid progress.

Hospitality threatened to delay him and required considerable attention to avoid it. He estimated that if the return flight was made and all the invitations accepted he would spend the rest of his life reaching England, and incidentally easily gain the world's record for the slowest long distance flight.

The offer of assistance was encountered everywhere he stopped and he particularly mentioned the invaluable help received from Mr. Leete, who did a light aeroplane flight to India before him, and Capt. Lancaster and Mrs. Keith Miller, who were met at Singapore, where they await the repair of their Avro "Avian" in order to continue their flight to Australia. According to one report Hinkler said that his experience proved that a more powerful engine was required for such a long flight in order that there may be reserve power against head-winds and storms. His cruising speed was 80 m.p.h. and he thought that a cruising speed of 100 m.p.h. was necessary.

Before commencing the venture he tried to raise finance in London, but this proved too difficult owing to the previous failures of similar expeditions by other pilots. Much scepticism was evoked by his choice of a light aeroplane for the task and particularly by his promise to do the trip in sixteen days. Yet had it only been possible for him to pay an

insurance premium of £150 he would have received over £2,000 for succeeding in sixteen days.

Hinkler's Career

Until this flight brought it to light the earliest years of Hinkler's career were very little known, even by those who knew him so intimately, for he retained his modesty as much in private life as in public. His career is always of particular interest to *FLIGHT*, because when he came to England from Australia in 1914 he visited our offices to find out what prospects there were of entering aviation. Those early boyhood experiments with gliders in Bundaberg were timidly mentioned then and found to be very interesting. It was as a mechanic that he started and in that capacity he joined the Royal Naval Air Service when the war broke out. Later he obtained a commission and flew as a R.A.F. pilot on the Italo-Austrian frontier. When the war was over he tried to obtain a machine with which to fly to Australia but was not successful. Then began his career with A. V. Roe and Co., which finally made his name. It was in various capacities that he first served this company until he became their test pilot. As a test pilot he also flew for other companies and was chosen as a member of the Schneider Trophy Team of 1925 when it contested the race in America. More recent important test flying by him was that on the "Crusader" at Felixstowe for last year's Schneider contest.

With his Avro "Avian," on which he incorporated several practical ideas, he won many air races in this country and flew to Latvia from London in a non-stop flight of 1,200 miles; which remains unbeaten even by any stage in his Australian flight. Unfortunately, it is not an official record.

His Future

There has been a variety of rumours concerning his future intentions. He is not now closely connected with the Avro Company. One of the primary objects of his visit to Australia was to see his mother. There is no doubt now that he would have no difficulty in finding a suitable position in aviation in his own country. But he is reported to have said that there are one or two propositions for long-distance flights from England that he is contemplating. One of these may be an attempt on the Atlantic from east to west in an all-metal flying-boat with Capt. R. H. McIntosh as his companion. Mrs. Hinkler, his wife, who is still in England, has expressed hopes that she will fly with him to Australia one day. It was a disappointment to her that it was impossible to do so on this occasion. Mrs. Hinkler also said that she does not think her husband will attempt to fly back. On the day of the successful arrival at Port Darwin she was entertained at a West End hotel by a group of friends.

Triumph of British Material

It must not be forgotten how much this flight owed to the wonderful reliability of British material. The component parts in the Avro "Avian" (A.D.C. "Cirrus" engine) which contributed so immensely were B.T.H. magnetos, K.L.G. plugs, Hobson carburettor, Fairey metal airscrew, Shell Aviation Spirit (unmixed with any other ingredients) and Wakefield Castrol Oil. The machine was doped with Titanine. Accessories of Rubery, Owen and Co.'s, and a Tecalemit grease gun were also used.

To All Whom it May Concern—Thanks!

As is only to be expected, Messrs. A. V. Roe and Co., Ltd., have received a very large number of congratulatory messages on Mr. Bert Hinkler's achievement. They advise us that as far as possible replies have been sent individually, but to those who sent messages and have not received a reply they would like to express their thanks through the medium of *FLIGHT*.

The Royal Air Force Club

THE Annual General Meeting of the Royal Air Force Club will take place at 128, Piccadilly, W.1, on March 14, at 5 p.m.

The Royal Air Force Dinner Club

THE annual dinner of the Royal Air Force Dinner Club will be held on June 29 next.

Armstrong-Siddeley Engines Abroad

FOLLOWING on the selection of Armstrong-Siddeley "Lynx" engines for use in the Fokker machines to be employed on the Milan-Munich Alpine air route—reference to which was made in this journal—we learn that these

engines have also been chosen for the new Dutch East Indies Postal and Passenger Service, which will shortly be put into operation between the islands of the Malay Archipelago. The machines for this service will be the 3-engined Fokker monoplanes, similar to that used by Lieut. Koppen in his Amsterdam-Batavia flight.

Australian Aerial Services

THE following traffic figures for December last have been issued by Australian Aerial Services, Ltd.—which operates the Melbourne-Hay-Cootamundra-Adelaide-Broken Hill services in Australia. The total mileage flown up to December 31, 1927, was 520,250; miles flown during December, 13,371; arrival at terminal airports within 30 mins. of schedule, 93 per cent.; fatal accidents to passengers or crew, nil. The company recently inaugurated special round flights for tourists from Melbourne to Queenscliffe via Bacchus Marsh, Geelong and Parwon Heids, thence returning to Melbourne via the eastern coast of Port Phillip Bay, passing over the popular seaside resorts of Portsea, Sorrento, Mornington, Frankstown, Mordialloc, Brighton, St. Kilda, etc. This tour, covering approximately 200 miles, is usually accomplished in a little more than 2 hours' flying time.

OUR FLIGHT FROM AMSTERDAM TO BATAVIA AND BACK

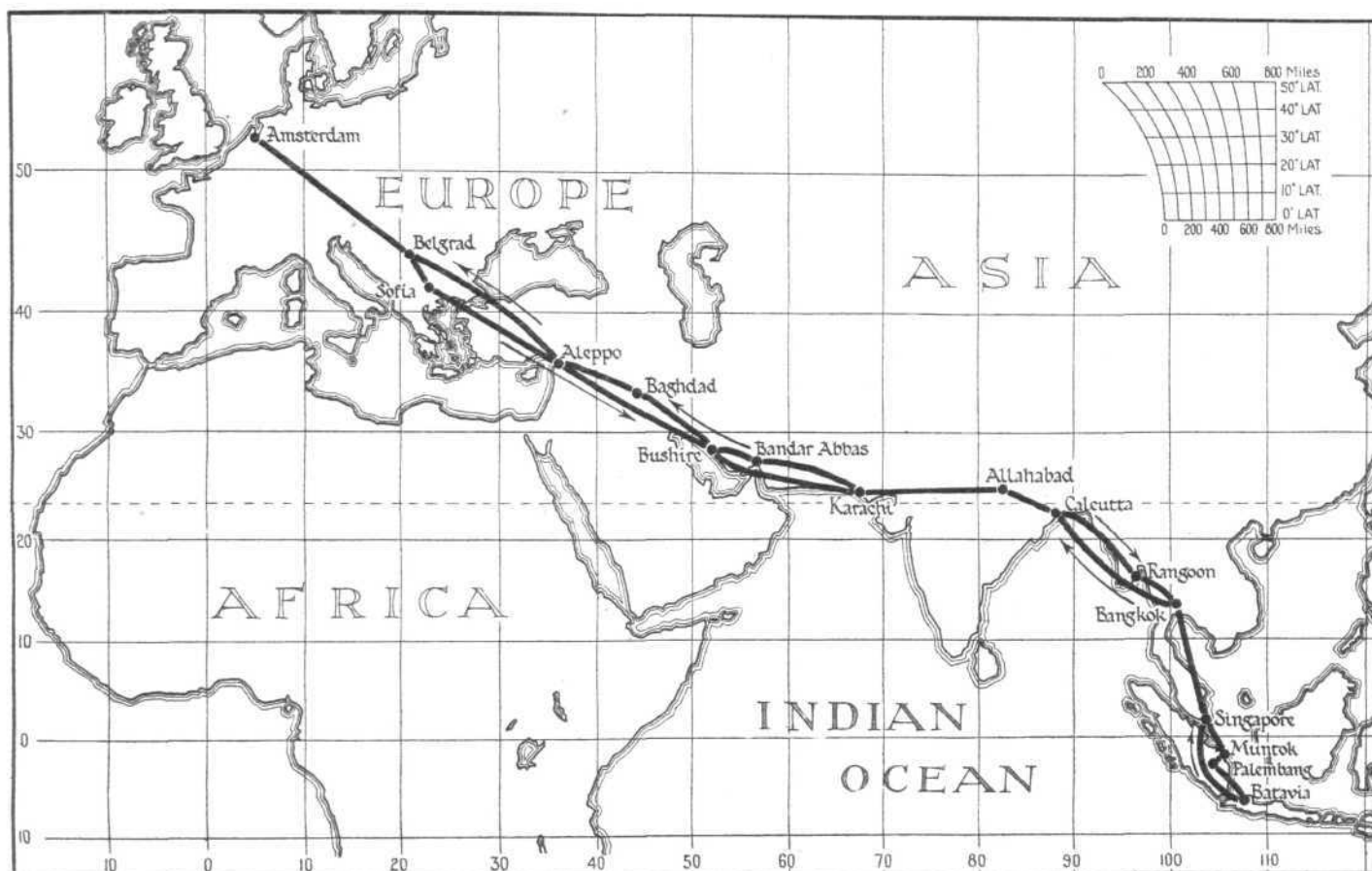
By 1st Flight-Lieut. G. A. KOPPEN

[Note.—We are glad to be able to publish below a translation of the story of the splendid flight from Amsterdam to Batavia and back accomplished last year by Lieut. Koppen as told by the pilot himself.—Ed.]

ALTHOUGH for various reasons it has not been possible for me until this year (1927) to realise the great plan of a flight from Holland to Dutch India and back, and before my two Holland-Indian flights were already successfully accomplished, I certainly intended to be able to show as my consolation that I was one of the first to think of this idea. For already in 1919 I was ready to start in order to endeavour to put into operation the first air connection between the Motherland

at disposal—the Fokker F.VIIa and its motor installation, the three Armstrong-Siddeley “Lynx” motors.

My Fokker, which I had called “Postduif” (Carrier Pigeon), had a petrol provision of 1,880 litres, divided between two normal flying tanks of 360 litres each, and four extra tanks of 290 litres each, which were placed in the cabin. The oil provision, to the extent of 180 litres, was divided between three tanks of 60 litres each. The division of weight was made as follows: Weight, empty, 2,370 kgs.; petrol (1,880 litres), 1,418 kgs.; oil (180 litres), 162 kgs.; crew and baggage, 240 kgs.; cargo (spare parts, post, etc.), 310 kgs.; total weight, 4,500 kgs.



AMSTERDAM-BATAVIA-AMSTERDAM: Sketch map of the route taken by Lieut. Koppen during his 18,000 miles out-and-home flight.

and our great Colonial possessions in the Far East. Owing to all kinds of diplomatic difficulties the performance, however, came to nothing.

I again tried to realise my plan in 1923. However, my colleague Van der Hopp, who at that time was working at a plan for an Indian flight, was already so far advanced that I, rather than interfere with his success, withdrew my own scheme. The first flight from Amsterdam to Batavia took place in 20 flying days and 55 days in all; the home journey was completed by boat.

I took up the matter again in February, 1926. During my preparation I applied to an American millionaire, Mr. Van Lear Black, at our K.L.M. (the Royal Dutch Air lines), with the laconic question, whether he himself could fly from Amsterdam to Batavia in six weeks. The scheme was accepted, and in about a couple of weeks later, on June 15, 1927, a standard Fokker F.VIIa, manned with five people, under the direction of the K.L.M. pilots Geysendorffer and Scholte, set out from Amsterdam; 39 days later the party, after an air journey of about 30,000 km., stood again on the Amsterdam flying field Schiphol!

My task in the meantime was not easy. Instead of encouraging me, the sumptuous prestige of the K.L.M. was simply an annoyance to me. I was convinced that Amsterdam and Batavia could be brought closer together, and this conviction I based on the excellent material I had

Of the larger spare parts beside the case with smaller spare parts, only three cylinders, a vice and a wheel were carried. Further requisites for the equipment comprised a case with special “Lynx” tools. Our paying cargo consisted of 10,600 fl. letter post. The three Siddeley “Lynx” motors, compression 5:1, were normal series motors, without any modification. The “Postduif,” with the motors running 1,700 to 1,750 revolutions, developed, with a mediated petrol consumption of 50 litres per hour per motor, a cruising capacity of 165 kms. per hour. Over the whole journey, however, we were able to keep an average of about 180 kms. per hour.

Whereas I occupied myself principally with the navigation I shared the steering of the vessel with Mr. G. Frijns, one of the best flyers of the K.L.M. Mr. S. Elleman, chief fitter of the Fokker factory, went as mechanic. I have learned to value both as hard workers and true comrades, to whom nothing was too much, and with all their hard work, proved themselves, in the full sense of the word, to be the right men in the right place.

At last in the early morning of October 1, 1927, the long-looked-for morning dawned. After a broken band had caused us more than an hour's delay, we glided with a becoming grace into the air. Very quickly the earth was lost to sight by clouds. At last we decided to make a dive and hit on a station by name Landshut, so that we could take our bearings. Arrived at Belgrade there appeared



AMSTERDAM-BATAVIA-AMSTERDAM : A four-minute shower was sufficient to result in bogging Lieut. Koppen's Fokker (3 Armstrong-Siddeley "Lynx" engines) at Allahabad during the outward trip.

to be still plenty of petrol and just sufficient daylight left to get to Sofia, where we, shortly before dark, alighted on the Bozurice flying field, after a journey of 11 hours. Immediately the 10 hours' maintenance prescribed by the engine makers was begun, showing that everything was in the best order. Petrol was to be obtained in plenty at Bozurice; but benzol, not a drop! Considering the Armstrong-Siddeley works had prescribed for their "Lynxes" a mixture of 80-20, we were in an awkward position. However, we determined to try to go further with only petrol—and she went well, for in a very speedy journey we flew the following day the stage to Aleppo, where we spent the rest of the day in the charming company of the French flying officers. The prescribed mixture petrol-benzol appears later only to be obtained in Karachi and Kandoeng.

On October 3 we flew to Bushire. We followed the Euphrates, circling over the Flying Field of Bagdad-West, and continued our flight. Soon we made acquaintance with the first sand storm, and we were obliged to ascend to 3,000 m., where we left the sand behind. In remarkably

quick time we approached the Persian Gulf and in three hours Bushire was reached.

In no time here our machine was surrounded by a great number of natives. To our joy the Shell representative speedily came to us. He brought 500 litres of petrol, which, of course, was too little; probably a mistake made in the telegram! Luckily, we were able to obtain in the town a further 1,300 litres. As there was no suitable hotel we accepted thankfully the proposal of Mr. Benjamin of the French Consulate, and made use of an improvised bed in the Consulate.

The following morning began the fourth stage. The Persian island is still somewhat a land of surprises. It is wild, grey and desolate, yet, in the most unexpected places we saw real paradises lying below. Instead of keeping to the coast, we went across country, here and there for 150 kms. inland. From off Gwadar we headed seawards right to Karachi, where a very hearty reception was given to us on the part of the British Royal Air Force. That we, four days ago, had departed from Amsterdam, no one at first would



AMSTERDAM-BATAVIA-AMSTERDAM : In trouble once more; at Bangkok, on the return flight, the "Postduif" was badly bogged, resulting in slight damage and two days' delay.



AMSTERDAM - BATAVIA - AMSTERDAM : Aleppo from above, showing, in the centre, the fortress.

believe. And yet it was so—and it was so easily done; we ascended early, came down again late, which we did just four times, and then we were in Karachi. We had nothing to do to the machine ourselves because of our R.A.F. colleague. He was a mechanic who knew the "Lynx" well, and under the management of Elleman, the Fokker was soon flying again.

In Allahabad, where we were the guests of the "Pioneer Press," we arrived on October 5, to depart from there again on the 6th. But half an hour after the departure a strong wind, in conjunction with the back current of the oil pressure of the middle engine, turned us back. In landing, the Fokker sank so deep into the mud that we were working into the middle of the night fishing her out again, a job wherein we, thanks to the powerful help of our host, Mr. Gilbert, and the Fort Commander and his crew, were happily successful.

Since Calcutta, our next stop, was not originally on the programme, of course, there was no petrol there in depot. From the Shell, however, we quickly got all that we needed. On October 8 we started in the hope of getting to Rangoon. However, once in the air it appears that we outdid ourselves and got right to Bangkok. The weather was, however, bad, with much rain and cloud. Since little could be seen from inland, we followed the coast to the Moscos Islands, ascended there, trusting on our instruments, to 2,500 metres and then coursing due East. Away over the mountains the weather speedily became better, and after 9 hours' flight we reached the principal town of Siam. Here Elleman was obliged to put the reserve screw on the middle motor, for the heavy rains had treated the prop. of this motor very badly.

After the "Postduif" had been fully packed with divers "Love Gifts," given to us by our charming Siamese host, the stage to Singapore followed. We preferred the shortest way; 750 kms. over water, trusting to our "Lynx" trio and our Smith's Aperiodic Compass. Then we went a couple of hundred kilometres over woods, where literally no tree is missing, and in about 9 hrs. the "Postduif" came to rest on Singapore's magnificent race-course. Although it was Sunday, we speedily got the necessary fuel, thanks to the quick help of Captain Westers, the Shell man. In the meantime, Frijns and Elleman had already accepted an invitation from the Dutch Colony, and I was in the evening the guest of Sir Hugh Clifford, the Governor of the Straits Settlements, who had already done us the honour to welcome us on our arrival at the race-course.

Then, after a sleepless night, broke the last day, the last of our outward journey. The "Lynxes" ran harder than ever before, and the "Postduif" shot into our archipelago swift as an arrow. We descended first at Muntok on Banka, in order to deliver the post. We were able to attend personally to this for the articles, as far as possible, were addressed to be delivered by hand on the field in question. Then our "Flying Mail Cart" started again, to the second halt; Palembang. But we were half an hour too early, so that the resident, Mr. Tideman, begged us to make half an hour's circle round. No one demurred, and with the resident and his fellow officials as passengers, we flew round again until the appointed time and we could land officially.

Then, we reached Batavia, our goal. Never shall we forget the wonderful scenes of enthusiasm which mastered all those present here. The fact that a Dutch flying machine within

10 days had overbridged the mighty distance between Amsterdam and Batavia, appeared to stir strongly the strings of the national conscience. And the greatest and most solemn moment, a moment that deeply impressed us all, was when the thousands on the flying field of Tjililitan together solemnly sang our "Wilhelmus," our national folk song.

The following morning Frijns and Elleman departed with the "Postduif" to Bandoeng, where in the workshops at the Military Air Navigation Department apparatus and motors in great variety are received. Here the engines were completely overhauled—valves were cleaned, and springs changed, while an oil scraper-ring was also changed, so that the oil consumption should be all right again. At the same time the reserve cylinder was fitted, in the left motor, as one of the cylinders of this motor had received a small dent under the edge during fitting. This really had caused no trouble, but as we still had a reserve cylinder, the damaged one was replaced. The air screws which had been damaged by the rain were repaired and again put in order. After testing everything seemed to be O.K.

On October 17, the "Postduif" journeyed back to Amsterdam, now with F1.22,000 post on board. The first day conveyed us via Palenbang and Muntok to Singapore, while on the second day we came to Bangkok. Here our Fokker suddenly sank with one wheel in the field covered with water. The Siamese then bound a cord on the axle and began to pull, but the rope shot aloft and broke, and the right wing knocked against the ground. This misfortune held us up two days in Bangkok. Our Fokker appeared the following morning to have received the company of the French pilot, Capt. Challe, who was on his way from Paris to Saigon.

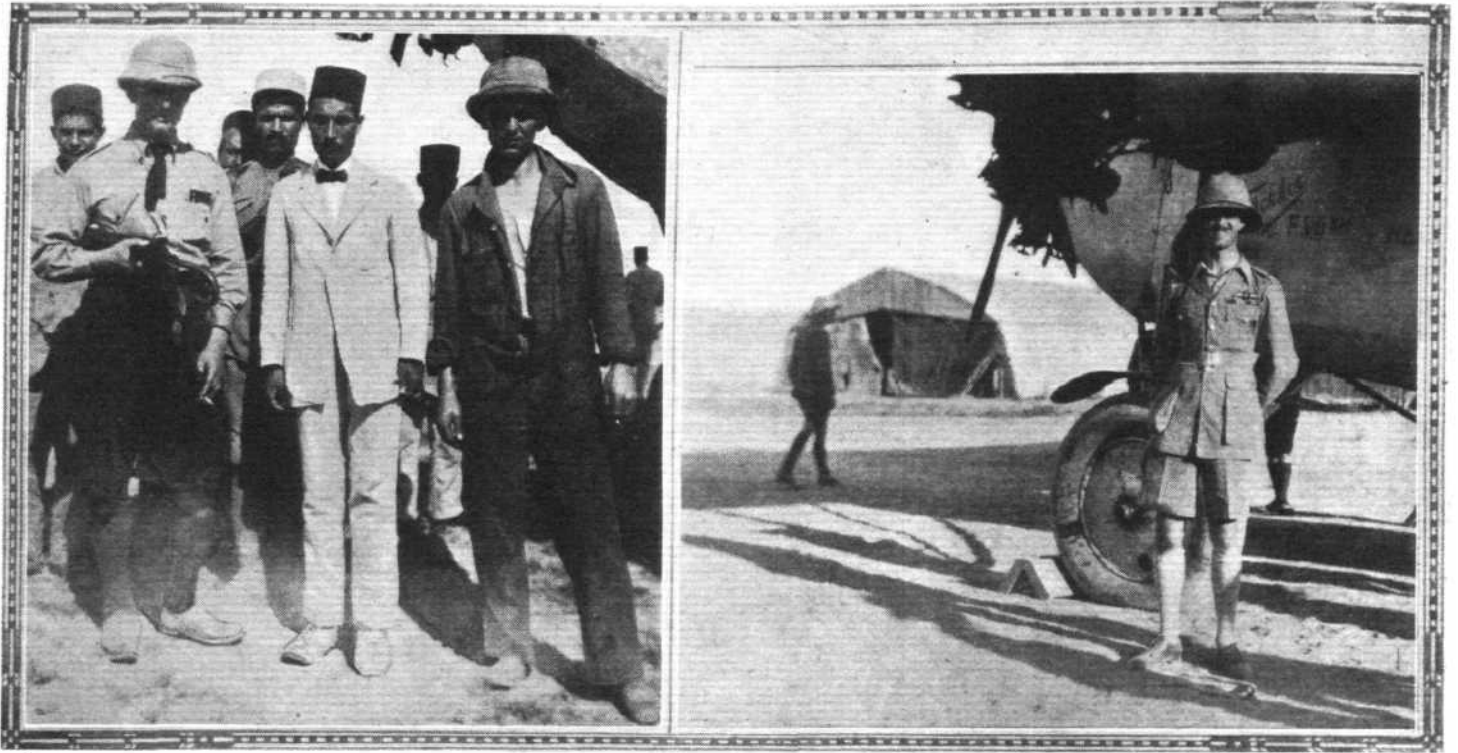
On October 21, giving our hearty thanks for the kind help and hospitality, we took leave of our Siamese hosts in order to fly in good time over Rangoon to Calcutta. Although, for the second time, we came unexpectedly coursing inward here, the Shell representative seeing us flying over the city had come to the conclusion that we needed him again, and therefore got the necessary petrol on board.

The days of October 22 and 23 brought us respectively to Allahabad and Karachi. Soon after our departure from Allahabad, we had for the second time oil trouble, which caused us to turn back, but after advancing the spring tension a half stroke, it ran perfectly. Again at our departure to Bushire, we were annoyed for the second time by mechanical trouble. This time we had a faulty oil-pressure gauge, but the R.A.F. spontaneously offered us a new one. "It is better not to mount the reserve gauge, otherwise you have nothing more on the way," was said to us. Splendid! such sporting co-operation!

In the meantime, it had become so late that we could not go further than Bander Abbas, where the English Consul, Mr. Richardson, very kindly invited us to be his guests. Here in Bander Abbas we met also the German "ex-aspirant Ocean Flyer," Konnecke, who by primitive means, flew to the Far East. Before the return over Europe, we obtained from Konnecke a hint or two. Just then he advised us not to go over the Alps, but over Vienna. And further, "In no case to follow the Danube, which is the grave of the air simpleton." This appears to be so, because there is often much mist in the valley.



AMSTERDAM - BATAVIA - AMSTERDAM : An aerial view of the tin mines of the island of Sinkep (Sumatra).



AMSTERDAM-BATAVIA-AMSTERDAM : Hospitality en route. On the left, Mr. S. E. Elleman (pilot) and Mr. G. Frijns (mechanic) are seen with Mons. Benjamin (centre), French Consular Agent at Bushire. On the right is Maj. Whistler, Commandant of No. 55 Bombing Squadron, R.A.F., at Baghdad.

Our plan the following day was to fly in a direct line to Bagdad, but a leaking oil cooler caused us to go over Bushire, where Elleman quickly fitted the reserve cooler. In Bagdad we were heartily welcomed on the flying field of Hanaidi by Maj. Whistler, commander of the 55th Bombing Squadron. There was plenty of petrol to be obtained here, but hardly any oil. After some discussion, we were told that we could have at our disposal the remainder of the stock of Sir Alan Cobham.

We arrived in Aleppo, and this time we did not sleep in the town, but in the Station Hotel, much to the satisfaction of the bugs, who seemed to be specially partial to the fat Frijns. With the tank brimmed full of fuel, we came away out of Aleppo in the early morning. The "Lynx" again went beautifully, and so we flew for 10½ hours, in order to come to rest in Pancevo, the flying field of Belgrade.

Then dawned the last day, the day of October 28. In clear weather, helped by a following wind, we started off briskly. To our vexation, Vienna was under a mist, but getting further up the weather cleared. After losing for a little time the "points of the compass" through this trouble, the West German industrial dominion gave us our bearings.

We passed Essen and arrived at Nymegen, on native soil. We still thought of landing on the military flying field of Soesterberg, for we were, with the idea in our minds of the official reception, much too early, but as the weather at that place was bad, we thought it more advisable to stop there. And so the "Postduif" a quarter after three in the afternoon came to rest again on the Amsterdam Flying Fields Schiphol. Thus, with the intended week's residence in the Dutch East Indies, the splendid Fokker-Siddeley-Armstrong combination had completed the distance of about 30,000 km. in the record time of 28 days!

From the lessons which can be drawn from this flight, must surely, in the first place, be named the evident superiority of the air-cooled motor. The trustworthiness of the Siddeley "Lynx" comes out specially strong when one compares the strain on our motors today with that required in the two former Indian flights. Further, we have now greatly profited in the demonstration of the simplicity of the construction of the Fokker. That a serious damage, such as happened in Bangkok, could be repaired thoroughly and decisively within two days, speaks volumes for the splendid construction of the steel fuselage and of the wooden wings.

PERSONALS

Married

Flight-Lieut. L. CHISMAN, only son of Engineer Rear-Admiral and Mrs. Chisman, of Brockenhurst, was married on February 20, at St. Thomas' Church, Lymington, to ALDYTH ROSAMUND, only daughter of Lieut.-Com. HARRIS, R.N.R., and Mrs. Harris of Lymington.

Flight-Lieut. E. P. M. DAVIS, A.F.C., A.M., eldest son of Admiral Edward Davis, C.M.G. and Mrs. Davis, of Bexhill, Sussex, was married on February 21 at St. Marylebone Parish Church, to FREDERIKA, elder daughter of H.E. THE JONKHEER VAN DER GOES, Netherlands Minister in Rome.

Flight-Lieut. EUGENE McLOUGHLIN, eldest son of the late Mr. Eugene McLoughlin and Mrs. McLoughlin, of 10, Falkland House, Cheniston Gardens, W.8, was married on February 20, at the Oratory, Brompton, to FERDINAND MARY (FERDIE), eldest daughter of Mr. and Mrs. JOHN DORMER, of 40, Princes Gardens, S.W.7.

To be Married

The engagement is announced between Mr. ARTHUR G. MOON, R.A.F.,

eldest son of the Rev. Cecil and Mrs. Moon, of Broadwell Hill, Morston-in-Marsh, and SHEILA MARY, younger daughter of the late GERALD CRAVEN, of Belle Eau Bank, Notts, and Mrs. Craven, of Coln St. Aldwyns, Glos.

An engagement is announced between Flight-Lieut. S. L. G. POPE, D.F.C., R.A.F., third son of the late Mr. and Mrs. William Pope, of Waterford, Ireland, and Miss PAMELA YOUNG, elder daughter of Dr. and Mrs. A. Cameron Young, of Ipswich.

The engagement is announced between HAROLD F. G. SOUTHEY, Flying Officer, R.A.F., only son of the late Canon Southey and Mrs. Southey, of St. Christopher's, Clevedon, Somerset, and JOAN M. G. DAVIES (Joe), elder daughter of Mr. and Mrs. Harold B. Davies, of 27, Park Mansions, Knightsbridge.

The marriage arranged between Sqdr.-Ldr. JOHN WHITAKER WOODHOUSE, D.S.O., M.C., and Miss KATHLEEN ELEANOR WILKES, daughter of Mr. David Wilkes, of Roslyn Lodge, Tyson Road, Forest Hill, will take place on Saturday, March 24, at 12.30, at St. Mary's Church, Datchett.

Capt. Broad Better

CAPT. H. BROAD, the De Havilland test pilot, who recently had an accident at Stag Lane whilst carrying out very important test work, has now left the hospital and is progressing rapidly.

Oxford Aviation

THE Vice-Chancellor of Oxford paid a visit to Upper Heyford on February 23, to watch the undergraduates

flying their Avro "Lynx" machines, under the command of Wing Commander A. G. R. Garrod. An offer to ascend was refused by the Vice-Chancellor on the ground that he was a bad sailor. Members of the Squadron complain of the present restrictions which forbid them to fly solo, although many of them are qualified pilots. There are now over 75 undergraduates in the Squadron, and many others are petitioning to join.



AIRISMS FROM THE FOUR WINDS.

African Survey Flight

SIR ALAN COBHAM and his crew of the Short "Singapore" flying-boat are now flying south to Rhodesia and South Africa. They arrived at the southern end of Lake Victoria on February 24, and thus completed the Dominions Office experimental flight from Alexandria down the Nile to Mwanza, back to Khartum, and then back again to Mwanza.

Air Survey in Rhodesia

MAJOR COCHRAN-PATRICK of the Aircraft Operating Co., Ltd., who has been carrying out an air survey of the Zambesi for 400 miles upstream, together with 500 miles of the Kabompo River, has temporarily suspended operations owing to the rainy season. He will resume shortly. With ten men he has already vertically photographed from the air over 3,700 square miles, and obliquely photographed over 12,000 square miles. Visual reconnaissance over 40,000 square miles of hitherto unmapped or incorrectly mapped country has also been made. Difficulties arose during the dry season, from August to October, owing to gigantic bush fires, the smoke of which became like a London fog, rising to over 12,000 ft., and thus rendering observation impossible.

U.S. Airship's Long Cruise

THE U.S. Naval airship, Los Angeles, started from Lakehurst, New Jersey, on February 26, on a cruise to Cuba, and, if weather permitted, for the Panama Canal Zone. The following day a wireless message from her gave her position as three miles off South Negril Point, Jamaica. This indicated that the voyage to the Canal Zone was being carried out. It was completed at 10.40 p.m. on February 27, the whole distance of 2,265 miles being flown non-stop in 40 hours. On February 28, the airship left for Cuba, and was expected to moor for the night on the naval tender, "Patoka," then return to Lakehurst on February 29.

Air Liner for Afghan King

THE King and Queen of Afghanistan visited the Berlin Aerodrome on February 23, and the King was particularly pleased to hear that Lufthansa hoped, in the future, to extend its Berlin-Moscow air route to Afghanistan. Following the inspection and a German flying display, the Royal guests were presented with a three-engined Junkers passenger aeroplane, by the German Government.

French Atlantic Flight

THE French Ministry of Marine is organising a Transatlantic flight to take place in the Spring. Lieut. Sala, of the Cherbourg naval aerodrome, will be in charge of the venture, and he has already left for the Azores to make the necessary preparations.

Another England to Australia Flight

A MESSAGE from Batavia reports that Wing-Commander Manning is planning a private flight from England to Australia. He proposes to start at the beginning of March.

Long Distance Flight Attempt

CAPT. W. R. HINCHLIFFE, the former Imperial Airways pilot, is now at Cranwell preparing for a non-stop flight to India in a Stinson-Detroiter monoplane fitted with a Wright "Whirlwind" engine. He made a test flight with a three-quarter load on February 25, and had to descend owing to fog.

Copenhagen-London in Six Hours

A FOKKER-JUPITER air liner belonging to the Royal Dutch Air Lines flew from Copenhagen to London in six hours on February 27. It had been chartered by Mr. Van Lear Black for a business trip from London to Copenhagen and back.

Hong Kong Aerodrome

A REPORT from Hong Kong states that His Majesty's Government has allocated £100,000 from Imperial Funds towards the cost of the Hong Kong Aerodrome, of which £70,000 will be payable, if possible, this year, and the balance on the satisfactory completion of the work.

African Air Developments

AFRICAN AIRWAYS, LTD., is now being formed, and will start in June an air service between the Rand and Durban. A Government subsidy of £8,000 per year has been granted them. The fleet will consist of three large machines, each seating eight passengers, and three D.H. "Moths." The

service will take three hours to bridge, and it is possible that it will be extended to Cape Town later.

Australian Air Development

MACHINES seating eight passengers will soon operate on a new air line in South Australia, linking Adelaide and Melbourne in four hours. A company has been formed for this purpose.

Australian Aircraft Carrier

THE first aircraft carrier to be constructed for the Royal Australian Navy, H.M.A.S. "Albatross," was successfully launched on February 23, at Sydney. It is a vessel of 6,000 tons and reported to be a reduced copy of the "Hermes." The ceremony was performed by Lady Stonehaven, wife of the Governor-General.

R.A.F. in Action

THE R.A.F. is still taking an active and effective part in the operations in Iraq. On February 26, an oasis in the Nejd desert was bombed. In the House of Commons, Mr. Amery, summarising the results of the recent frontier raids said that the Government was satisfied with the efficiency of the Air Force in dealing with such incursions.

S. Atlantic Air Mail

THE postal air service between Paris and South America was due to commence on March 1. Seaplanes will carry the mails from Paris to Dakar via Casablanca. Then the mails will cross the ocean to the island of Fernando Noronha with a stop at Cape Verde Islands. From the former islands small fast vessels will take them to the mainland. At first the mails will take ten days to reach Buenos Aires from Paris, which is half the time taken on the ordinary route.

Still Missing

WE reported in our last issue, that a machine flying for the Hudson Bay Expedition, with a crew of three on board landed on the ice after losing its position, on February 17. A diligent search has been completed by aeroplanes, and dog teams, but without result. Little hope is now held of the survival of the crew.

The Ford "Flivver" Test

IT is feared now, that the Ford test pilot, Mr. Harry Brooks, was drowned in the sea off Melbourne, Florida, on February 25, when his machine, the new Ford "Flivver" on which he had been doing a long-distance test flight, plunged into the sea. After the crash the machine was seen to rise to the surface, and the pilot waved his coat. Unfortunately, owing to the high waves, fishermen were unable to save him. When they reached the spot, nothing was to be seen. Later the machine was washed up on the beach near Sebastian, but nothing more has been heard of the pilot.

Looping the Loop Craze

NOT to be beaten by the Americans, the French pilot, M. Frouval, looped 1,111 times in 4 hrs. 56 mins., on February 25, at Villacoublay.

Yugoslav Air Line

THE first Yugoslav air line for passengers was recently opened. It links Belgrade and Zagreb and uses five-seater Potez machines.

London-Paris Record

ALL air records in the commercial class between London and Paris were beaten on February 17, when a Handley-Page (Jupiter) machine on the Imperial Airways service flew the 230 miles in 80 mins.

Twenty Years Ago!

Extract from "The Auto" (Precursor of "Flight"), Feb. 29, 1908.

"German Army Airship Test.—At the founders' meeting of the Hamburg Airship Club . . . an announcement was made respecting a test which the German War Office have framed as a means of demonstrating the usefulness of an airship. In order to pass through an official trial, an airship must be capable of ascending to a height of 2,700 ft., of manœuvring for an hour, of descending to the ground, and then of rising and repeating the manœuvre without discharging ballast or gas."

THE ROYAL AIR FORCE

London Gazette, February 21, 1928

General Duties Branch

The following Pilot Officers are promoted to rank of Flying Officer, January 30:—R. K. Hamblin, B. C. Yarde, H. H. Martin, H. A. Purvis. Wing Commander J. E. A. Baldwin, D.S.O., O.B.E., is restored to full pay from half-pay, January 16.

The following are transferred to the Reserve, Class A:—Flying Officer L. M. Timmins, January 19; Pilot Officer K. S. Munday, February 20. Pilot Officer on probation P. C. Miller relinquishes his short-service commission on account of ill-health, February 22.

Accountant Branch

Pilot Officer on probation D. A. K. Yiend is confirmed in rank and promoted to rank of Flying Officer, December 4, 1927.

Medical Branch

Flight Lieut. H. Penman, M.B., is granted a permanent commn. in this rank, February 22.

Memorandum

The permission granted to Lieut. H. H. Wood to retain rank is withdrawn on his enlistment in the Territorial Army (April 26, 1920.)

IN PARLIAMENT

Cape Town Flying Routes

VISCOUNT SANDON, on February 22, asked the Secretary of State for Air how much time would be saved by taking the route across France, the Mediterranean, the Sahara, the Cameroons, and thence to Cape Town, rather than by the East Coast; whether landing grounds could be as suitably and cheaply created; and to what extent as to these points and as to commercial and revenue-producing possibilities the two routes would vary?

SIR S. HOARE: On the assumption that a comparison between the route which is outlined in his question and the normal flying route to Cape Town is desired, the answer is as follows: The saving in distance would amount, it is estimated, to about 850 miles, representing approximately eight and a half hours' flying time. On the other hand, more than three-fourths of the western route would lie over foreign territory, of much of which no detailed survey has been made. The establishment and maintenance of landing grounds and the equipment of them with adequate supplies of petrol and oil would be very expensive, while in regard to commercial and revenue-producing possibilities, the suggested route appears to compare very unfavourably with the normal flying route.

Airship Regulations

MR. ROSE asked the Secretary of State for Air if his Department has any code of regulations governing lighter-than-air airship construction for civil passenger-carrying purposes embodying specific conditions as to passenger and crew accommodation, sanitation, medical service, life-saving apparatus, etc.; and, if so, will he publish them?

SIR S. HOARE: One of the objects which the construction of the two new experimental airships will, I hope, achieve, is to indicate the regulations which will be necessary for passenger-carrying airships. Until practical experience has been gained by experimental flights it would be premature to lay down general regulations, and in the meantime it is sufficient to deal with any individual applications which may be received for certificates of airworthiness for airships and the safety requirements which should be fulfilled on their merits.

Wright Brothers' Aeroplane

SIR S. HOARE, in reply to Commander Bellairs, said that Mr. Orville Wright has very generously lent to the Science Museum, for a period of five years, the actual aeroplane in which he and his brother accomplished their first flights on December 17, 1903. The machine will be exhibited in the Aeronautical Collection of the Museum.

Civil Aviation Conference, Washington

COMMANDER BELLAIRS asked the Secretary of State for Air whether he has any information as to the suggestion of the President of the United States being acted on by holding an international civil aviation conference and exhibition in Washington, D.C., in 1928, on the occasion of the twenty-fifth anniversary of the first airplane flight; and whether arrangements are in hand in case of such an exhibition being held?

SIR S. HOARE: I have heard unofficially that the United States authorities are considering the holding of a civil aviation conference and exhibition at Washington this year, but I have received no detailed particulars as yet, and am awaiting fuller information.

Officers Wanted as Royal Air Force Pilots

THE AIR MINISTRY announces: Nearly 350 officers will be required by the Royal Air Force for flying duties during the present year under the short service commission scheme, the average rate of appointment being approximately 40 each month. Applications are accordingly invited from suitable candidates who must be between the ages of 18 and 25, well-educated and of good eyesight and physique. Short service commissions are granted for five years' service on the active list and four in the reserve. Accepted candidates enter as pilot officers on probation with pay of about £273 a year, increased on promotion to flying officer after 18 months' service to about £343. Officers also receive free quarters, etc., or where these are not available, cash allowances in lieu amounting at present to about £141 a year. A gratuity of £375 is issued on termination of five years on the active list. Pilot Officers undergo training at a Flying Training School for about a year and are then posted to a service squadron for duty. Only a small number of short service officers are eventually granted permanent commissions, but facilities are available to assist the others to obtain civil employment at the end of their period of duty.

Reserve of Air Force Officers—Openings for Pilots

THE AIR MINISTRY announces:—A number of openings present themselves now to young men to be trained as pilots in the Air Force Reserve. At least 60 candidates will be accepted by the Air Ministry, if so many of the right type are forthcoming.

Applicants must be of good education and physique, but need not have had any previous flying experience. They must be over 18 and under 25 years of age. Those judged from their applications to be suitable are interviewed by a Selection Committee, and those selected, after passing an examination by a medical board, are nominated to commissions in the Reserve as Pilot Officers on probation. The probationary period is 12 months, after which, subject to satisfactory reports, officers are confirmed in rank. Promotion to Flying Officer normally takes place after 18 months' service.

RESERVE OF AIR FORCE OFFICERS

General Duties Branch

W. D. Brookes (Pilot Officer, Australian Citizen Air Force) is granted a commn. in Class A as Pilot Officer on probation, February 21; E. M. S. Spence is granted a commn. in Class A.A. as a Pilot Officer on probation, February 6. The following Pilot Officers are promoted to rank of Flying Officers:—W. A. E. Featherstone, February 9; H. J. Phillips, February 16.

Pilot Officer on probation P. S. Clarke is transferred from Class A.A. to Class C, November 26, 1927.

AUXILIARY AIR FORCE

General Duties Branch

No. 601 County of London (Bombing) Squadron.—The following Pilot Officers to be Flying Officers:—J. J. Parkes, January 13; N. H. Jones, January 21.

Erratum

(See FLIGHT, February 6, 1928, page 107.)—For "No. 603 City of Glasgow (Bombing) Sqdn." in the Gazette of February 7, read "No. 603 City of Edinburgh (Bombing) Sqdn."

Commissions are granted in the first place for 5 years, but at the end of this period extension may be allowed at the discretion of the Air Council, for further periods each of not more than 5 years.

Flying training is carried out at Civil Flying Schools at Edgware and Bristol, and consists of a course not exceeding 3 months (preferably taken continuously) during the first 6 months of service; 6 hours' solo flying (within a maximum period of 10 days' training) during the second 6 months; and 12 hours' solo flying (within a maximum period of 20 days' training) in each subsequent period of 12 months' service.

When undergoing training an officer receives, generally speaking, the same pay and allowances as an officer of the same rank on the active list. The present rates of pay are 15s. a day for pilot officers, and 18s. 10d. a day for flying officers. Allowances amount to about 7s. 9d. a day for officers of these ranks. In addition, an annual retaining fee of £30 is payable, subject to compliance with the regulations.

Application forms and further details can be obtained by applying to the Secretary (S.7.c.), Air Ministry, Adastral House, Kingsway, London, W.C.2.

PUBLICATIONS RECEIVED

Pocket Calendar for 1928. British Helicopter and Helio-plane Co., 111, Humber Road, Blackheath, London, S.E.3.

R.A.F. Training Manual. Part II. Applied Flying. Air Publication 928. H.M. Stationery Office, Kingsway, London, W.C. 2. Price 1s. 6d. net.

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CINQUE PORTS FLYING CLUB, LTD.—Capital £2,000, in £1 shares. Objects: To promote, assist and encourage aerial navigation in all its forms and the study of aeronautics, etc. First directors: Maj. C. F. Krabbe, F. W. Butler, A. Dallas Brett, E. D. W. Reid, Capt. L. A. R. Braddell, G. E. Took, T. A. M. S. Lewis. Solicitors, Dallas, Brett and Son, Hythe, Kent.

AERONAUTICAL PATENT SPECIFICATIONS

(Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.)

APPLIED FOR IN 1926

Published February 23, 1928

- 18,768. CRANKLESS ENGINES, LTD., and A. G. M. MITCHELL. Air-cooling of crankless i.c. engines. (284,063.)
18,826. ARMSTRONG SIDDELEY MOTORS, LTD., and J. C. BRIGGS. I.c. engines. (284,359.)

APPLIED FOR IN 1927

Published February 23, 1928

- 6,737. A. G. CALABI. Parachutes and stowing-devices for use therewith. (284,489.)
9,943. F. C. KUSSE and F. C. KUSSE, jun. Aircraft structures. (284,502.)
16,591. F. NANKER. Ornithopters. (284,534.)
26,061. H. JUNKERS. Speed governors for i.c. engines. (284,567.)

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